

JOSÉ A. MARI MUT



BOTANISTS BEFORE LINNAEUS

2020

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- Etimología de los géneros de plantas fanerógamas en las Antillas
- Etimología de los géneros de plantas de Linneo
- Plant genera named after people (1753-1853)
- Flores de Puerto Rico
- Flores comunes de Puerto Rico
- Frutas y vegetales en los mercados de Puerto Rico
- Frutas olvidadas de Puerto Rico
- Las flores de Rosa Navarro Haydon
- El árbol de ceiba

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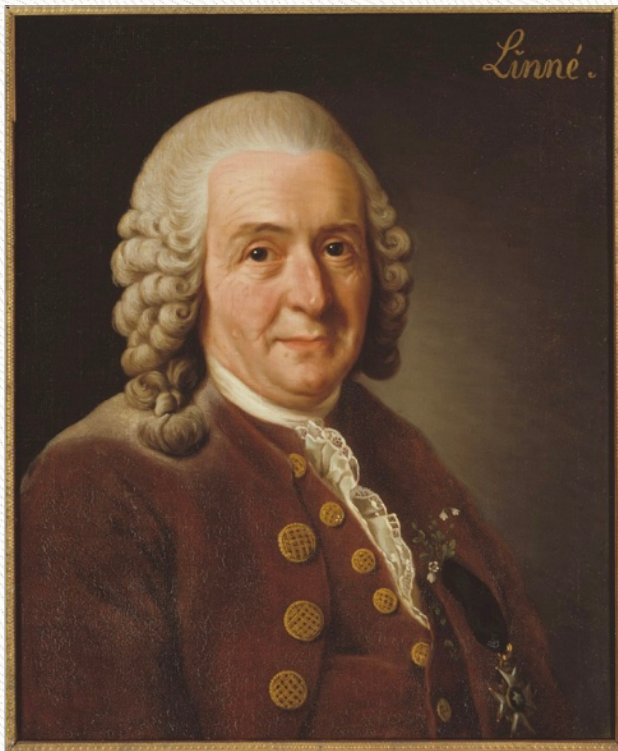


INTRODUCTION



CAROLUS LINNAEUS

1707-1778



Three statements about Carolus Linnaeus (Carl Linné, Carl von Linné) heard by just about every biology student: that he is the father of modern botanical nomenclature, the inventor of the binomial scientific name, and that only such names published starting with his 1753 *Species Plantarum* are valid, may have left in many minds the impression that there were no botanists before Linnaeus, or that the few who preceded him were of little importance to the study of plants. This is not correct.

During the 16th and 17th centuries there were many naturalists interested in the study of plants; albeit with a different technology, they communicated with each other, travelled to collect plants, exchanged specimens and published important works. Just as Newton saw further because he stood on the shoulders of giants, Linnaeus owed much to the botanists who preceded him. He recognized the fact in his publications, and honored many of them by using their surnames for new genera, or adopting names that Micheli, Plumier, Tournefort and other botanists had already dedicated to them.

The present contribution reviews, for the benefit of the aforementioned students (young or old), the lives and main contributions of 44 botanists born before Linnaeus, and whose work to a larger or lesser extent helped Linnaeus accomplish what he achieved. The botanists are arranged by birth date, beginning at the end of the Middle Ages with Otto Brunfels (1488) and ending at the dawn of the 18th century with Henri Louis Duhamel du Monceau (1700). The information about them was obtained from resources available online, such as encyclopedias (recent

and very old), biographical dictionaries, text accompanying library expositions, academic articles on botanical history, and taxonomic revisions of plant genera. The sources will be readily found by googling the botanist's names.

It was not easy to decide which botanists to include in the first part of this work. Availability of sufficient information to prepare an acceptable synopsis was an important criterion, as was the desire to include representatives from different countries and time periods. Of course, the impact of the botanist's work had considerable weight.

The 44 selected botanists are followed by a second group of 252, for which names and a little information is provided. Like those in the first group, these botanists were born before Linnaeus and one or more plant generic names were dedicated to them from 1753 to 1853. Many more botanists could be added if species names were considered, generic names proposed after 1853, and botanists who have not been honored with either of such names. The brief information provided for the botanists in the second group was taken from the author's *Plant genera named after people (1753-1853)*: <http://edicionesdigitales.info/plantgenera/plantgenera.pdf>, <https://archive.org/details/plantgenera>. More information will be found about these botanists by googling their names.

The illustrations were taken from a variety of sources and are used according the fair use principle, which allows for their use in academic publications which, like this one, have no purpose other than education and are offered freely to the

public. The photos of the leaves of *Bahuinia*, the flower of *Commelina*, and the inflorescence of the castor oil plant were taken by the author.

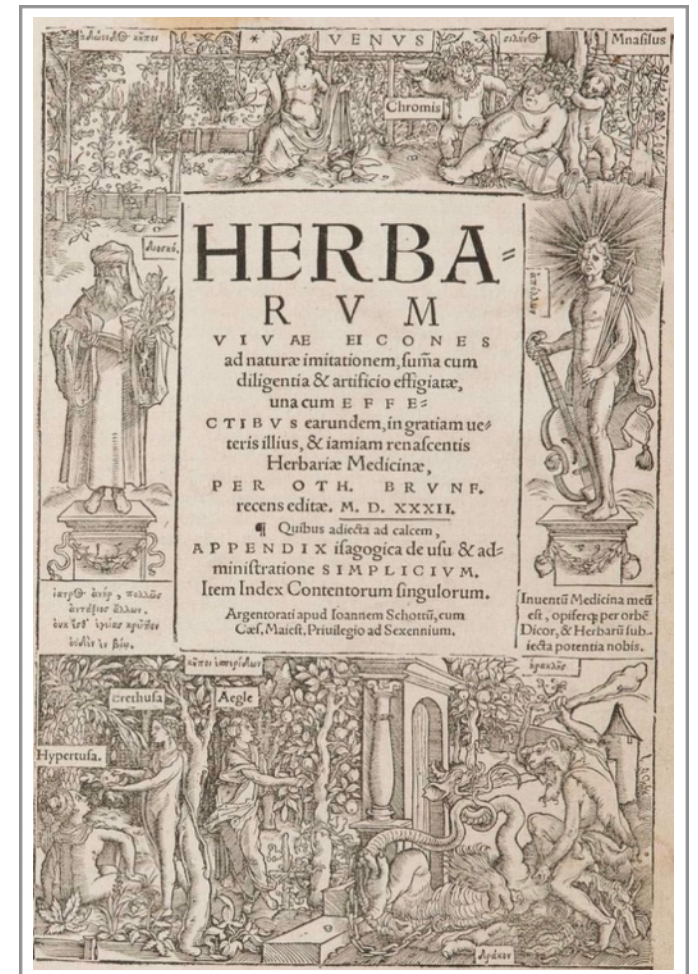
44 BOTANISTS





Otto Brunfels was born around 1488 in Braufels, near Mainz, Germany, and died in 1534 in Bern, Switzerland. He studied philosophy and theology at the University of Mainz, and entered a Carthusian monastery there, moving later to a similar monastery in Strasbourg (France). His life as an enclosed or cloistered monk was interrupted by the spirit of the Reformation and he left the convent to become a schoolmaster, preacher and Lutheran minister. Key to his change of attitude was Nikolaus Gerbel, a German humanist, jurist and doctor he met in Strasbourg in 1519, and who also drew Otto's attention to the healing powers of plants and thus to botany. In 1532 Brunfels became a physician at the University of Basel and as such worked in Bern until his death.

Brunfels made important contributions to theology, pedagogy, languages and medicine. His key contributions to botany were the three-part *Herbarum vivae eicones ad naturae imitationen...* (1530-1536) and the two-part *Contrafayt Kräuterbuch...* (1532-1537). In these works he published some new observations, instead of repeating the text of the Greek and Roman classics, and more importantly, the text of the first work was complemented by 238 high

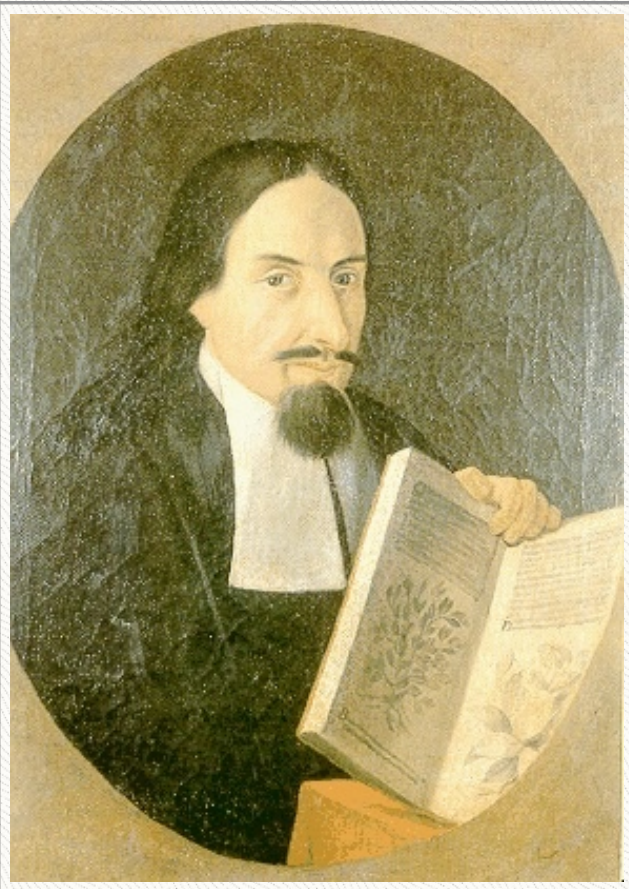


quality original illustrations made by German artist Hans Weiditz. Previous herbals included low quality figures copied from other publications. The figures represent some 230 species, about 40 of which were described for the first time. The illustrated plants were apparently chosen by Weiditz, who included a number of species with no economic or medical importance. The plants were painted in their natural condition, with imperfections caused by insects, other animals and the weather. Some figures, like the one reproduced here, were hand colored after printing. The plants are listed apparently in the order that the drawings were prepared and the woodcuts were ready, and not following a particular classification. It has been said that the modern science of botany was born with this publication. For his accomplishments, Linnaeus considered Brunfels one of the fathers of modern botany.



GHINIA SCHREB. 1789

Luca Ghini



Luca Ghini was born in 1490 in Casalfiumanese, Italy, and died in 1556 in Bologna. He studied medicine at the University of Bologna, became a physician, and by 1527 was lecturing there on the topic of medicinal plants. At this time medicine and botany were essentially the same science, which is why Ghini occupied the Chair of Herbs. Unable to obtain funding for the facilities he needed to teach effectively, Ghini accepted the Duke of Tuscany's invitation and moved to the University of Pisa, where he made two very important contributions to botany.

The first was creating the first formal herbarium or *hortus siccus* (dried garden). It consisted, not unlike the herbariums of today, of plants which had been dried by pressing them between two sheets of paper and then glued to a stiffer sheet. His herbarium has been lost to time but one prepared by his student Gherardo Cibo still exists. Unlike modern herbariums, where sheets are placed in folders and arranged systematically in cabinets, the herbaria in Ghini's time (and for a long time thereafter) were bound in book form and the plants arranged alphabetically. The modern herbarium cabinet, it should be noted, is one of Linnaeus' lesser-known contributions to botany; one of his original cabinets can be seen at the



headquarters of the Linnean Society of London.

Ghini's second great contribution was the foundation around 1544 of the *Orto botanico di Pisa* or *Orto Botanico dell'Università di Pisa*, the first botanical garden in Europe (although some sources indicate that the botanical garden of the University of Padua was established perhaps a year



earlier). Pisa's botanical garden is currently located at the via Luca Ghini. It houses a botanical school, a library, and one of the earliest iron-framed hot houses built in Europe. Ghini also founded the Florence Botanical Garden. For his accomplishments, he has been called the founder of the Italian School of Botany.

Few of Ghini's writings are known, but he communicated widely with colleagues and was an excellent teacher. Some of his students became important botanists, among them Ulisse Aldrovandi, Andrea Cesalpino, Pietro Andrea Mattioli, Bartolomeo Maranta and Luigi Anguillara. Cesalpino succeeded Ghini as second prefect or director of the Pisa botanical garden.

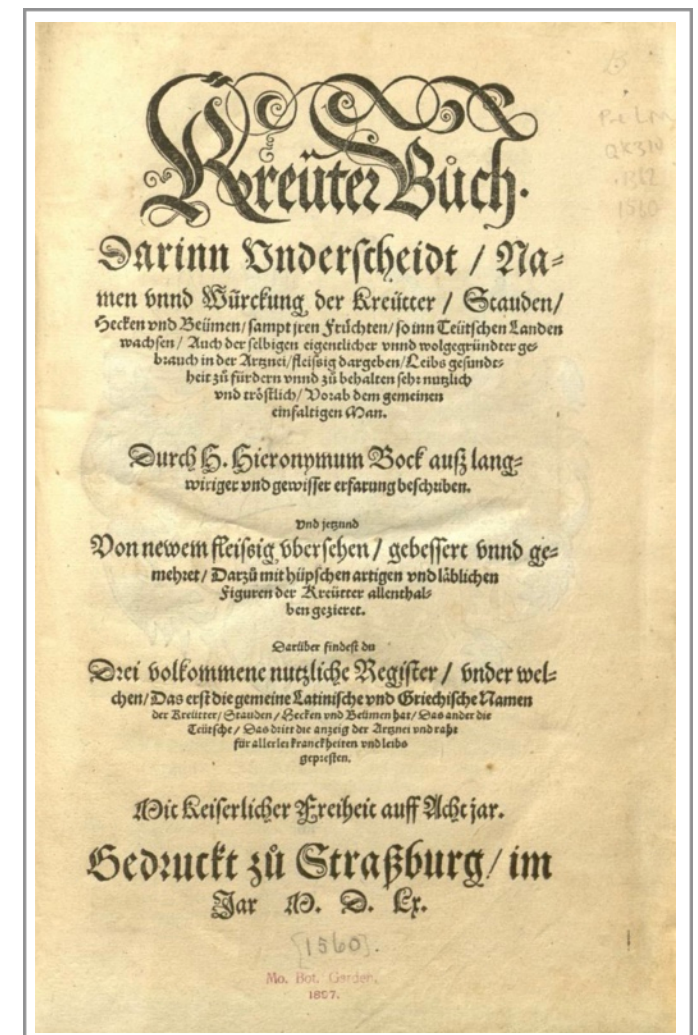
TRAGIA L. 1753

Hieronymus Bock



Hieronymus Bock (latinized Tragus, thus *Tragia*) was born in 1498 in Heidersbach, Germany and died in 1554 in Hornbach. He studied medicine at the University of Heidelberg and worked nine years as schoolteacher in Zweibrücken. From 1523 to 1533 Hieronymus was keeper of the garden of Count Palatine Ludwig in Zweibrücken, which allowed him to study a wide variety of plants. Bock travelled and collected in Germany and Switzerland, taking notes of the plants's characteristics, ecology and distribution. After losing his job due to religious differences with his employer's successor, he moved to Hornbach and became a Lutheran minister.

Bock's great contribution to botany was his *Kreuterbuch* (plant book) which appeared in two editions, the first in 1539 and the second in 1546. The first edition was written in German (following the suggestion of Otto Brunfels) and had no illustrations, while the second (known as *New Kreuterbuch*) was translated by David Kyber into Latin and is richly illustrated with woodcuts, approximately 550 of them by French artist David Kandel. The original illustrations were in black and white but many,



like the one reproduced here, were colored after printing.

In *Kreuterbuch*, Bock began the transition from the medieval custom of copying plant descriptions from the classics, particularly Dioscorides, to the modern way of describing plants from direct personal observation, as well as arranging them based mostly on appearance and perceived relationships instead of alphabetically or by practical use. Bock described approximately 700 plants. The book was very popular in Europe and more than twelve editions were printed.

Hieronymus Bock, Otto Brunfels and Leonhard Fuchs are commonly considered the fathers of German botany.



FUCHSIA L. 1753

Leonhart Fuchs



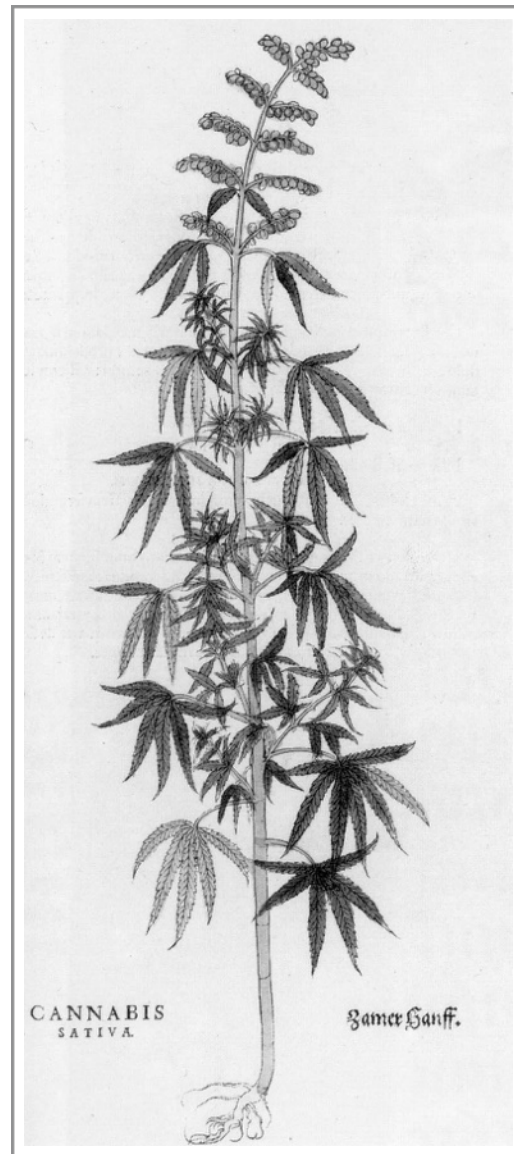
Leonhart Fuchs was born in 1501 in Wemding, Germany and died in 1566 in Tübingen. By age 23 he was a physician and as such worked two years in Munich. In 1626 he received a chair of medicine at Ingolstadt and from 1528 to 1531 worked as personal physician to Georg, Margrave of Brandenburg-Ansbach. Two years later Fuchs arrived at the University of Tübingen, where he would remain the rest of his life. Here he founded a botanical garden, served as chancellor several times and taught botany; field trips were common in his classes.

Leonhart wrote several important books on medicine; eye anatomy and pathology were his main specializations. In botany, his most important work was the herbal book *De Historia Stirpium Commentarii Insignes...*, published in 1542 in Latin, the language of science until the early 19th century; it was soon translated into German, English and Dutch. Herbals were intended for use by physicians, apothecaries (pharmacists) and gardeners, and their main goals were to identify the plant and communicate its practical uses, especially in medicine. Plants without a practical use found little or no space in these publications.

As was customary at the time, the text for the herbal was based mostly on Greek and Roman sources, like



the work of Dioscorides. As a result, the main contribution of *De Historia Stirpium* was not the text, but rather the excellent illustrations. Fuchs had the resources to assemble a team of three experts: Albrecht Meyer to paint the plants, Heinrich Füllmaurer to transfer the paintings onto the surface of wood blocks, and Veit Rudolph Speckle to cut the blocks by leaving on the surface only that which was to receive ink and produce an image. It took the team years to produce the close to 500 woodcuts needed for the book, in which about a hundred plants were illustrated for the first time. The images, produced under Fuchs supervision, were unusual in that they did not present the plant exactly as it was when collected, but included flowers and fruits, which are not always present at the same time. The roots were always included because they were frequently the part of the plant used in various remedies; sometimes the shape of the roots determined what they would be used for.

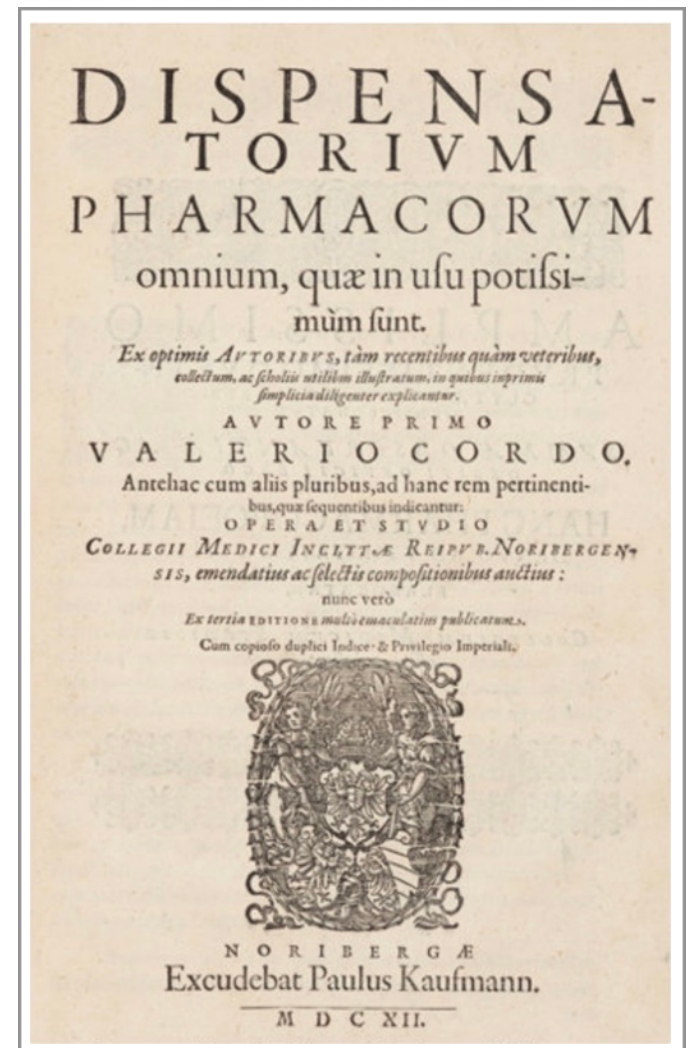


CORDIA L. 1753

Valerius Cordus



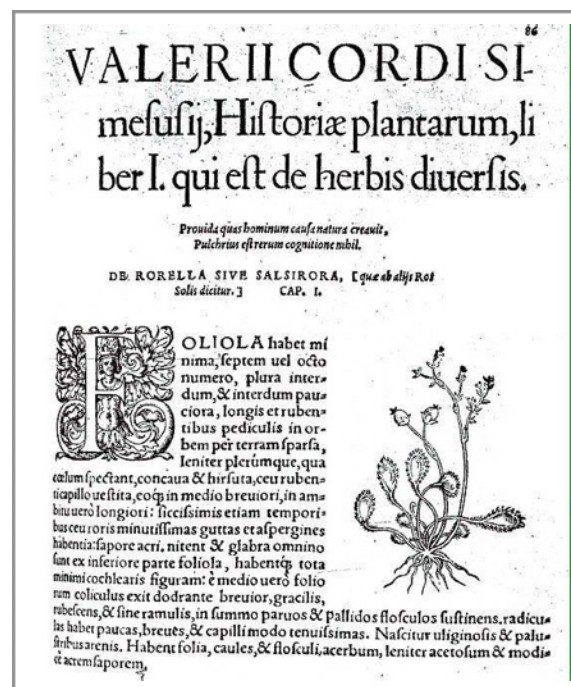
Valerius Cordus was born in 1515 in Siemershausen, Hesse, Germany and died in 1544 in Rome. As a child he learned botany and other subjects from his father, Euricius Cordius, a well-known educator, physician and poet. It has been said that Valerius, like Linnaeus, was raised by this father “even from the cradle in the midst of herbs and flowers”. Valerius received a bachelor's degree from the University of Marburg in 1531. He then entered the University of Wittemberg, where he studied medicine and lectured on Dioscorides (the classic authority on herbal medicine). After graduating he travelled in Germany, collecting, studying and describing plants. In 1542 he travelled to Italy to study and further research plants at Padua, Ferrara and Bologna (where he met Luca Ghini). After a short visit to Germany, he went back to Italy with friends, collecting and studying plants along the way to Florence, Pisa and Rome. Valerius is said to have been the “first to teach men to cease from dependence on the poor descriptions of the ancients, and to describe plants anew from nature”. His botanical studies have been considered “the first independent advance in this science since Dioscorides.”

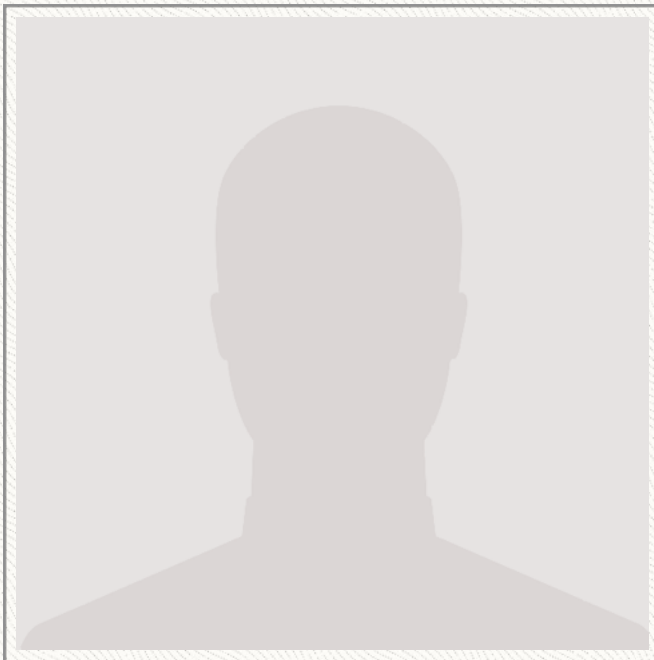


Cordius' contributions to science and botany were published posthumously. The first one was the first European pharmacopeia, titled *Pharmacorum consiciendorum ratio, vulgo vocant dispensatorium* (1546). It contains 535 pages, 18 plates and described some 225 medicinal plants. It was very popular, was translated into Dutch and French, and went through several editions.

His main contributions to botany were his five books known as *Historiae plantarum*, published in 1561 and 1563 thanks to the editorship of Conrad Gesner. These books describe some 500 plants, many of them new, with emphasis on taste smell and location, which at the time were important. Cordius tried to distinguish between genus and species, clarified the nomenclature of the plants, and provided information based on personal observations.

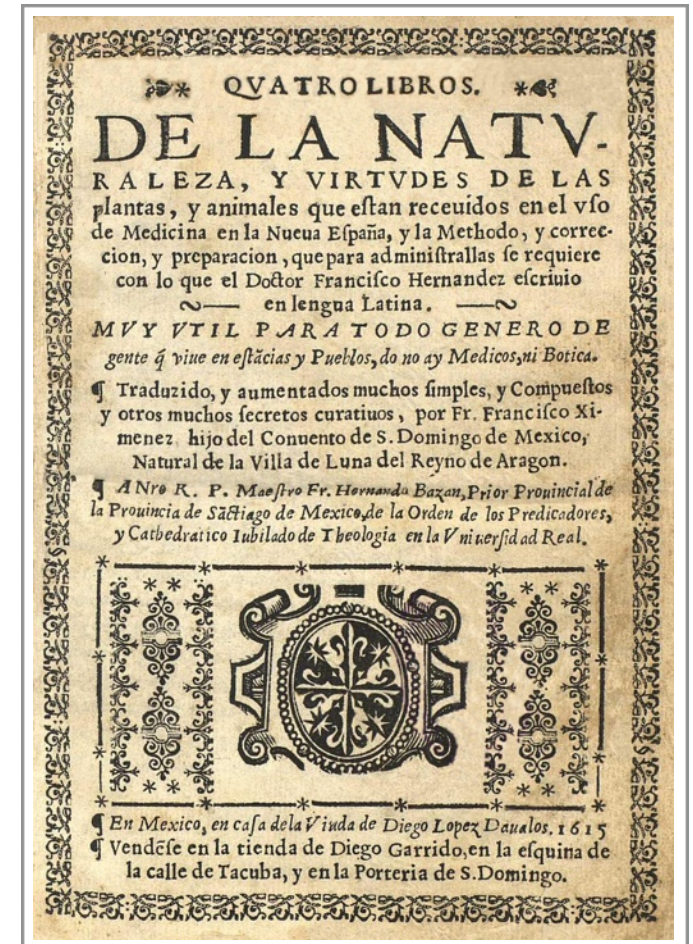
Cordia is one of many generic names proposed by Plumier and adopted by Linnaeus. While the latter indicates that it was dedicated to Valerius Cordus, the former also includes Valerius' father Euricius.





Francisco Hernández (Francisco Hernández de Toledo) was born in La Puebla de Montalbán, Toledo, Spain 1515 and died in 1587 in Madrid. He studied botany and medicine at the University of Alcalá and worked as physician in Toledo and Sevilla. He was also physician at the prestigious hospitals of the Guadalupe Monastery. At all these places he explored and collected plants, and at Guadalupe he was in charge of plantations for the botanical garden. He returned to Toledo in the mid 1560s and by the end of the decade had been named physician to King Felipe II. In 1570 the king chose Francisco to lead an expedition to New Spain (Mexico) to collect, study and bring back medicinal and otherwise useful plants. Known as *La Comisión de Francisco Hernández a Nueva España*, it is considered the first scientific expedition to the New World.

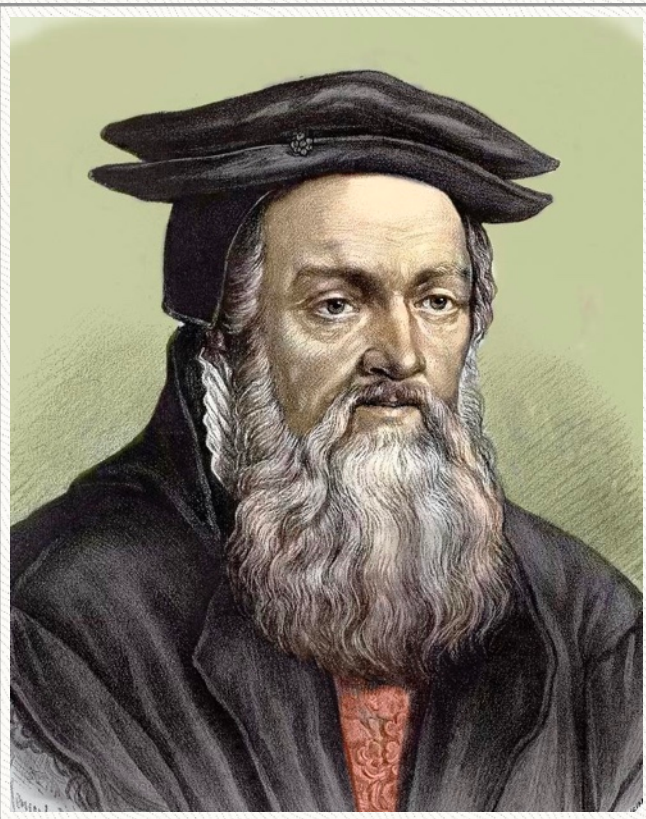
After stops in Cuba and Santo Domingo, where he also studied plants, Hernández arrived in Veracruz in February 1571. Until March 1574 he explored vast areas of México and Central America. The group not only collected thousands of plants and illustrated many of them, they also investigated the native populations and their medical practices. Until February 1577, when he left for Spain,



Francisco stayed in Mexico City, studying the plants, experimenting with their uses and preparing reports. Francisco described some 3000 plants, identifying most of them with native names because they were unknown in Europe. Among the plants described and studied were cacao, corn, chili peppers, tobacco, tomato, and vanilla. The massive amount of material collected by the expedition, which included living plants, dried plants on sheets, illustrations and lengthy reports, was delivered to the authorities in Spain. When Francisco died a decade later nothing had been published.

Possibly due to the length of the reports and the elevated publication costs, the king asked his then personal physician, Nardo Antonio Recchi, to summarize Hernandez's writings. One version of the original summary in Latin was translated by Francisco Ximenez and published in Mexico in 1615 under the title *Cuatro libros de la naturaleza, y virtudes de las plantas, y animales que están recibidos en el uso de medicina en la Nueva España...* A version revised by members of the Accademia de Lincei was published in Rome in 1651 with the title *Nova plantarum, animalium et mineralium mexicanorum historia*.

Casimiro Gómez Ortega published in 1790 parts of Hernández's texts on botany. The bulk of Francisco's writings, however, were never published and much was lost in a 1671 fire. *Hernandia* is one of the many genera described by Plumier and adopted by Linnaeus.



Conrad Gesner was born in Zurich, Switzerland in 1516 and died there in 1565. His family was poor, thus his education began at the house of a great-uncle who supplemented his income by collecting and growing medicinal herbs; this sparked Conrad's interest in natural history, medicine and plants. Scholarships allowed him to study at Bourges and Paris. In 1540 he went to the University of Montpellier to study medicine and met naturalists Guillaume Rondelet and Pierre Belon. A year later he became a physician at the University of Basel. For the rest of his life Gesner practiced medicine in Zurich and taught physics, natural philosophy and ethics at the Collegium Carolinum (precursor to the University of Zurich), where he founded the institution's botanical garden.

Conrad was a polymath and contributed to many disciplines. His many publications were based on personal observations and study, instead of reproducing the work of Greek and Roman authorities. As such, he belonged to the group of renaissance scholars who led the transition from the mentality of the Dark Ages into the Enlightenment. His first important publication was *Lexicon Graecolatinum*, a Greek-Latin dictionary published in 1539. Next was *Bibliotheca universalis* (1545-1549), considered the first



modern bibliography published since the invention of printing; it contained all the known works published in Greek, Hebrew and Latin (some 12 thousand titles). *Historia animalium* (1551-1558, 1587) is a 4500 page, five-volume encyclopedia of the all the vertebrates known at the time, both real and mythical, with their names in several languages.

Gesner's main contribution to botany was *Historia Plantarum*, a massive encyclopedia for which he collected material during more than a decade. It was to contain more than 1500 annotated illustrations, many of them by Gesner himself. The work was published posthumously in 1754 with Casimir

Christoph Schmidel and Christoph Jacob Trew as editors. Gesner was the first botanist to describe the tulip, which he named *Tulipa turcarum* and Linnaeus renamed *Tulipa gesneriana*.



Rembert Dodoens

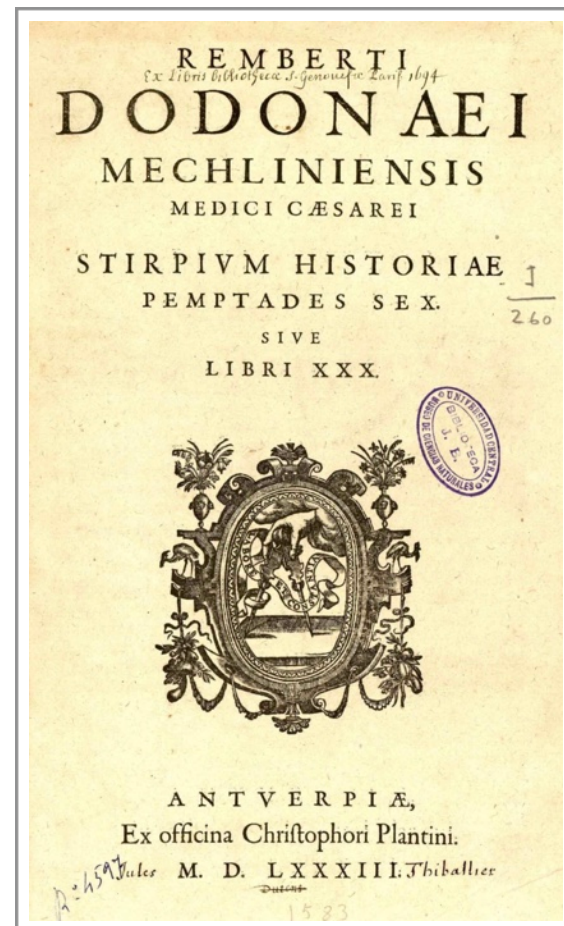


Rembert Dodoens (Rembertus Dodonaeus) was born in Mechelen, Belgium in 1516 and died in 1585 in Leiden, Holland. He was born Rembert Van Joenckema but changed his surname to Dodoens (son of Dodo, a variant of Denis, his father's first name). Rembert studied at the municipal college in Mechelen and following on his father's footsteps entered the University of Louvain to study medicine, obtaining a degree in 1535. During the next eleven years he travelled widely in Europe, ending with a four-year stay in Basel. In 1548, again following his father, he became city physician in Mechelen. After turning down a chair at the University of Louvain and an offer as court physician of Philip II of Spain, he left for Vienna in 1574 to become court physician of the Holy Roman emperor Maximilian II, and of his successor Austrian emperor Rudolph II. Rembert left Vienna in 1580 and in 1582 became professor of medicine at the recently founded Leiden University, where he remained the rest of his life.

Dodoens is best known for his *Cruydeboeck* (1554), a herbal inspired in the work of earlier German botanists, particularly Leonhart Fuchs. The book contains 715 images, both original



and from other works (a common practice at the time). Instead of arranging the plants in alphabetical order, as had been customary for a long time, Dodoens divided them into six groups based on their properties and what he considered to be affinities. Since the book dealt mostly with medicinal plants, it was treated as a pharmacopeia and became extremely popular. It was translated from the original old Flemish into French (1557- *Histoire des plantes*), English (1578- *A new herbal, or historie of plants*), Latin (1583- *Stirpium historiae pemptades sex*) and even Japanese. The Latin version (above) was a substantial revision, as it incorporated four additional works, divided the plants into more groups and contained more figures.



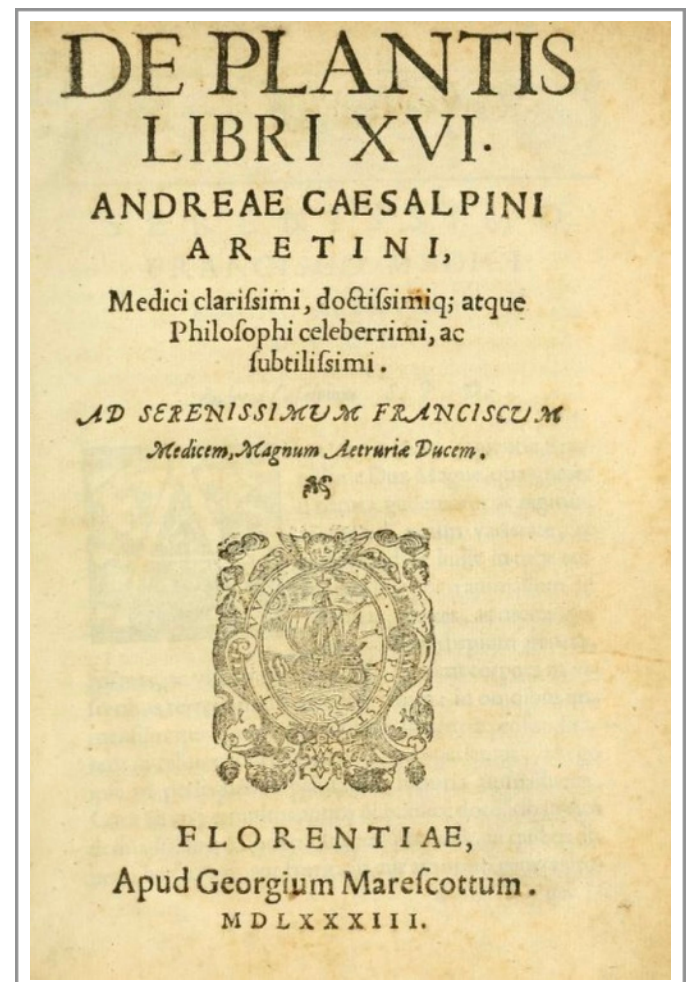
Dodonaea is another of many generic names proposed by Plumier. It was not adopted by Linnaeus, but Miller did so in his famous plant dictionary.

Andrea Cesalpino



Andrea Cesalpinio (Andreas Caesalpinus) was born in 1519 in Arezo, Tuscany, Italy and died in 1603 in Rome. He entered the University of Pisa to study botany and medicine under Luca Ghini and after graduating in 1551 stayed teaching botany, medicine and philosophy. Four years later he succeeded Ghini as professor and prefect of the Pisa Botanical Garden. Caesalpino had several students of his own, one of the most notorious being Pietro Castelli, who would be professor of Paolo Boccone, and the latter of Charles Plumier. In 1592 Cesalpino moved to Rome, to work as physician to Pope Clement VIII and as professor at the Sapienza University of Rome, where he taught until his death.

Cesalpino excelled in three quite different areas of knowledge. In philosophy he closely followed the teachings of Aristotle. In physiology he provided one of the first descriptions of the human circulatory system, making in the process an interesting analogy between our veins and the plants' transport system. In botany he is best remembered by the book *De plantis libri XVI*. About its title, E. L. Greene commented 'It has the most unassuming title that ever adorned the initial page of a very great



book; that could give no hint of its incalculable importance or of its great destiny, as marking the beginning of the epoch of Systematic Botany’.

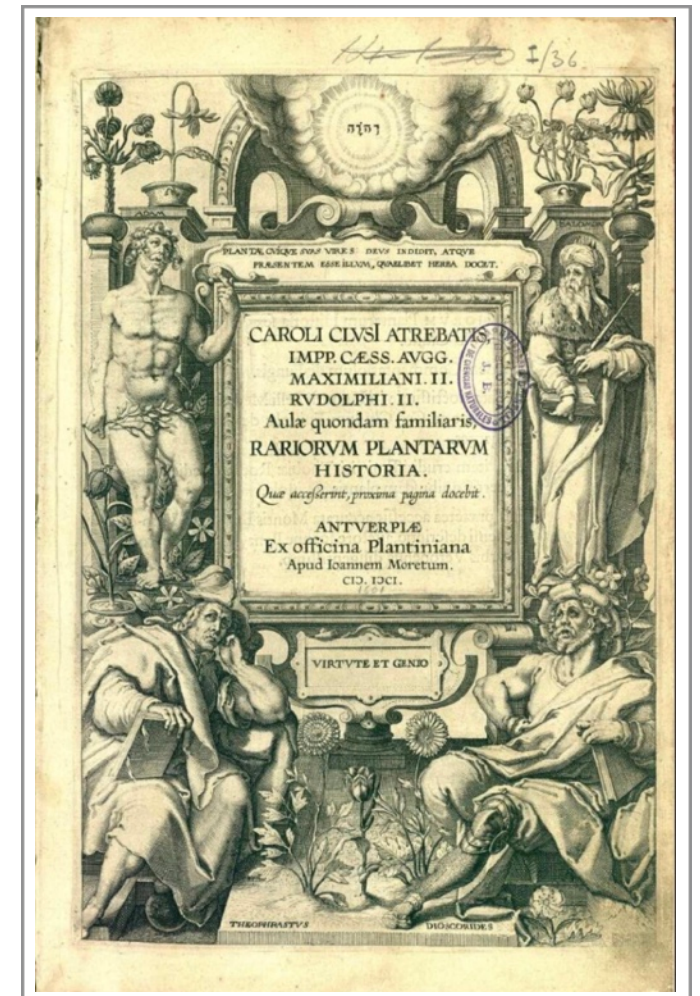
The importance of Cesalpino’s book resided in his effort to classify approximately 1500 plants according to their similarity and not alphabetically or by their medicinal use, as was customary at the time. Like Aristotle, he divided plants into four groups: trees (one stem), shrubs (multiple thin stems), shrubby herbs (perennial and bear fruit), and herbs (die after fruit production). The groups were then subdivided based on fruit characters, such as the number of chambers. The flower was not considered important because its role in reproduction was still unknown; Cesalpino thought, for example, that the role of the perianth and stamens was to protect the developing fruit (others considered that the stamens were excretory organs). Cesalpino’s effort to group similar plants and his reliance on structural characters instead of the plants’ name or its practical use, made him a pioneer of systematic botany; Linnaeus called him the first true systematizer.

CLUSIA L. 1753

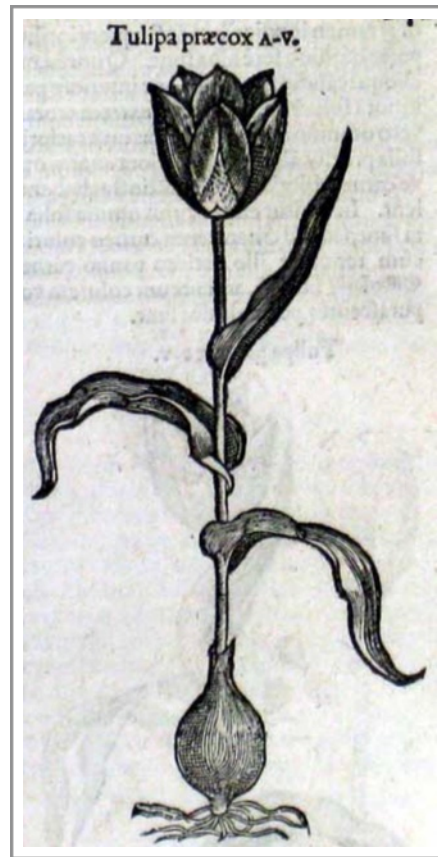
Carolus Clusius



Charles l'Ecluse, best known for his latinized name Carolus Clusius, was born in Arras, French Flanders in 1526 and died in 1609 in Leiden, Holland. Upon the suggestion of his father, he studied Greek, Latin and civil law at Louvain. He then went to Marburg to further his legal studies but there switched to theology, which he also studied at Wittenberg. While studying theology Clusius developed an interest in plants and moved to France to study medicine at the University of Montpellier from 1551 to 1554. Charles had no interest in practicing medicine and never did, but he learned about plants from Guillaume Rondelet. In the 1560s Clusius collected plants in Spain and became familiar with species imported from America. From 1573 to 1576 he was prefect (director) of the imperial medical garden in Vienna and during this time travelled widely in Europe, visiting gardens and collecting plants. In 1593 he was appointed professor at the University of Leiden and prefect of the Hortus Academicus, positions he held until his death. Thanks to his many contacts, he transformed the academic garden into one of the earliest great botanical gardens in Europe. He was also an excellent horticulturist and became famous for cultivating many exotic



plants, among them the horse chesnut (which was supposed to cure shortness of breath in horses), the potato, and the tulip. Clusius was the first to describe the phenomenon called tulip breaking, in which the red color “breaks” producing petals with different color combinations; the tulipmania that gripped Holland until 1637 happened as a result of his work.



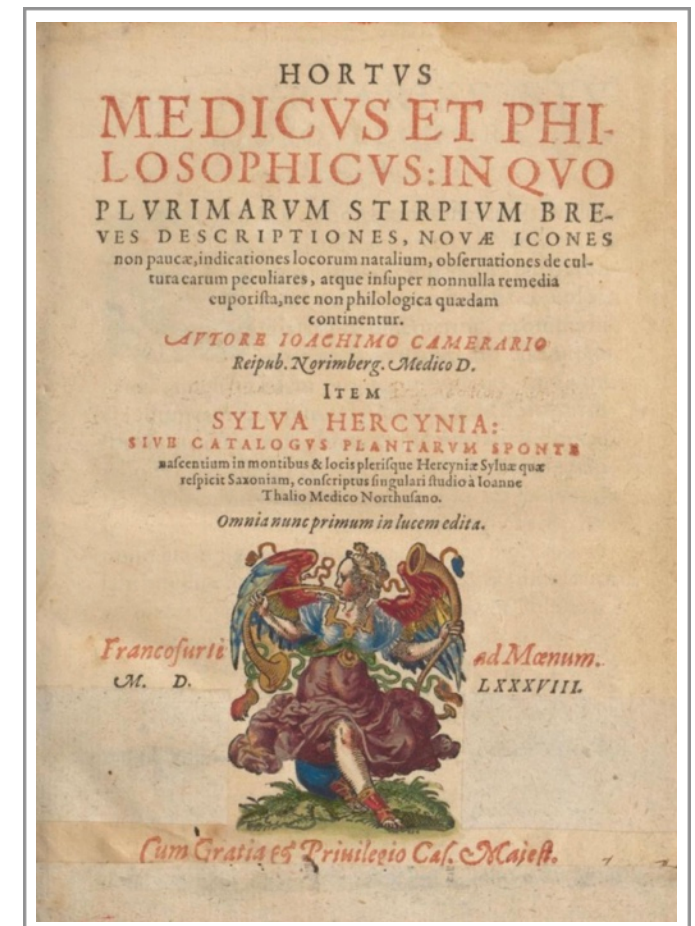
Clusius' first publication was a French translation of Rembert Dodoen's famous *Cruydeboeck*, published originally in Dutch (Clusius was fluent in eight languages). His first important work on plants were *Rariorum aliquot stirpium per Hispanias observatarum historia* (1576), one of the first books about the Spanish flora, and *Rariorum stirpium per Pannonias observatorum Historiae* (1583), about the Austrian and Hungarian alpine flora. Both works updated, plus another on fungi (*Fungorum in Pannoniis observatorum*) were published in 1601 under the title *Rariorum plantarum historia*, his best known publication (preceding page). The text is illustrated by numerous woodcuts. *Exoticorum libri decem*, a survey of exotic flora and fauna, was published in 1605. *Clusia* is another generic proposed by Plumier and adopted by Linnaeus.

Joachim Camerarius



Joachim Camerarius, known also as Joachim Camerarius the Younger, to distinguish him from his famous father, scholar and humanist Joachim Camerarius (1500-1574), was born in 1534 in Nuremberg, Germany and died there in 1598. The fame of his father exposed him early to a circle of intellectuals, but Joachim developed instead an interest for plants and medicine. He studied the latter subject at the University of Padua and obtained his degree in 1562 at the University of Bologna. He then returned to Nuremberg, established a medical practice and later became dean (director) of the recently created Collegium Medicum, a position he held until his death. During his time Camerarius founded a botanical garden and participated actively in the cultivation of its plants. He also purchased the library of Conrad Gesner. Upon his death, Camerarius was succeeded by his son, of the same name, both in his medical practice and as dean of the Collegium Medicum.

Camararius' main contribution to botany was *Hortus Medicus et Philosophicus: in quo plurimarum stirpium breves descriptiones, novae icones non paucae...* (1587). It contains 133 pages of plant descriptions arranged alphabetically, as was common at the time. The text is followed by 56 plates of attractive illustrations, colored by



hand, with a reference to the text page where the species is described. In the plate reproduced at the right note the binomial *Alcea arborescens*.

Perhaps better known is his *Symbola et emblemata* (1590-1604). This work is divided into four parts called *centuria* because each one contains a hundred emblems, each consisting of a motto, an illustration and an a commentary or epigram. Each emblem is accompanied by two or more pages of descriptive text, the emblem reproduced here shows a grape plant. This type of publication was popular from from 1550 to 1650. Camerarius also published in 1586 a popular edition of Mattioli's commentaries on Dioscorides.

Cameraria is another generic name proposed by Plumier and adopted by Linnaeus.



LOBELIA L. 1753

Mathias de l'Obel



Mathias de l'Obel (Matthaeus Lobelius) was born in Lille, Flanders, France in 1538 and died in 1616 near London. Little is known about his youth, but by age 16 he was interested in plants and medicine. Mathias traveled and studied in Italy before beginning medicine at Louvain; from there he moved to Montpellier to study plants under Guillaume Rondelet and became his favorite pupil, inheriting his manuscripts in 1566. L'Obel graduated in 1565 and stayed two years at Montpellier, studying and collecting plants in southern France. He then went to England accompanied by French botanist Pierre Pena and spent there some four years. They practiced medicine, collected plants and met botanist John Gerard. Around 1571 both returned to the Low Countries and for a decade Mathias worked as physician in Belgium and the Netherlands (at Middleburg he established a herbal garden). In 1584 he moved permanently to England, where he was superintendent of the Hackney Botanical Garden and physician to King James I.

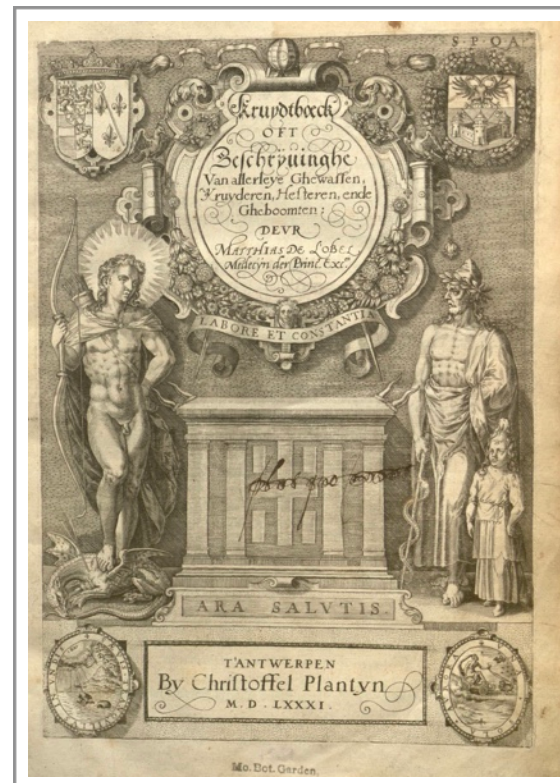
Lobelius' first publication was one of his main contributions to botany. Coauthored with Pierre Pena, it was published in London with the title



Stirpium adversaria nova... The work is almost 500 pages long, has some 270 woodcuts, and provides descriptions for approximately 1500 plants (mostly of pharmacological importance) collected in southern France, the Low Countries and England. The work stressed the importance of doing detailed observations and classified plants according to their affinities instead of medical use. An important character was leaf shape and venation, which led to two large groups corresponding to monocots and dicots. This work has been called one of the milestones of modern botany.

Another important publication was the two-volume *Plantarum seu stirpium historia*, published in Antwerp in 1576. It included an updated version of the preceding work, a treatise on herbal remedies by Rondelet and a seven-language index to the complete work. The text is accompanied by almost 2000 illustrations. This work proved very popular when translated to Dutch and published as *Kruidtboeck* in 1581.

L'Obel, Clusius and Dodoens are frequently called the Flemish Fathers of Botany. *Lobelia* is one of many generic names proposed by Plumier and adopted by Linnaeus.

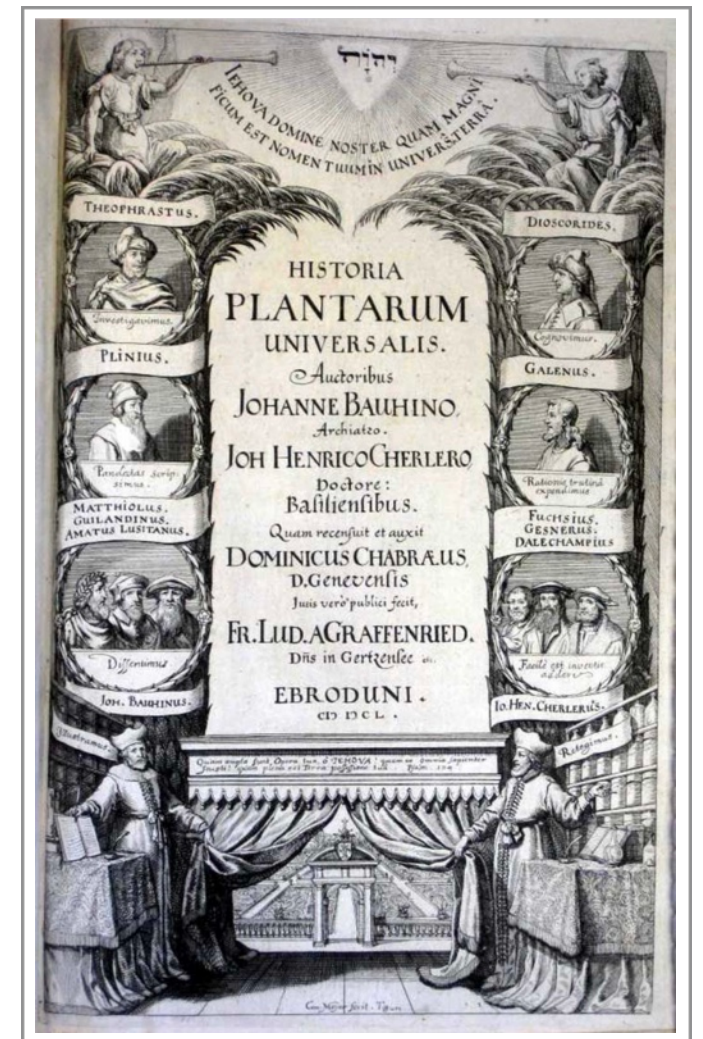


BAUHINIA L. 1753

Johann Bauhin

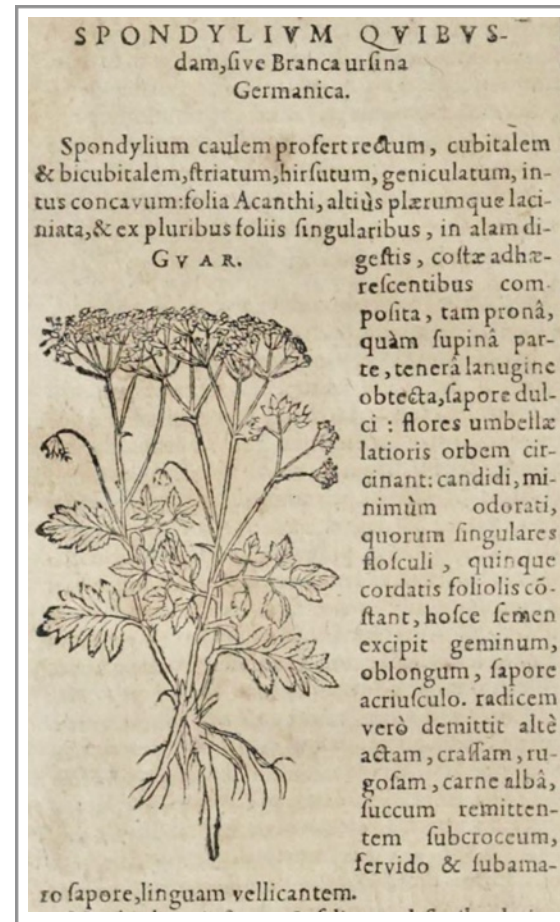


Johann (Jean) Bahuin was born in Basel, Switzerland in 1541 and died in 1613 in Montbéliard, France. He should not be confused with his father, Jean Bauhin (1511-1582), a French physician who fled to Switzerland after converting to protestantism. Johann is Gaspard's Bauhin older brother, his senior by almost 20 years. Johann studied anatomy under his father and from 1560 to 1563 travelled Europe, visiting several universities. He studied plants under Conrad Gesner in Zurich and accompanied him on a collecting and study trip to the Swiss alps. Following Gesner's advice, Johann went to Tübignen and studied botany under Leonhart Fuchs. In 1653, Bauhin established a medical practice in Lyon, but like his father had to flee to Switzerland for religious reasons. After a stay in Geneva he moved to Basel and in 1570 became professor of rhetoric at the university. A year later he accepted the position of personal physician to the Duke of Württemberg and moved to Montbéliard, where he established a botanical garden and remained the rest of his life. Bauhin published on a diversity subjects within the realm of natural history. His most important contribution to botany is the three-volume *Historia plantarum*



universalis, published in 1650-1651, almost forty years after his death. Although Bahuin did most of the work, his son-in-law and botanist Johann Heinrich Cherler helped and appears as coauthor. The publication contains descriptions of 5226 species (mostly European plants), complemented by 3600 woodcut illustrations which are interspersed with the text instead of being grouped at the end in plates. Note in the figure to the right the binomial *Spondylum quibus*, reference is also made to this type of name in the next essay, about brother Gaspard Bauhin.

Bauhinia is one of some sixty generic names proposed by Plumier and adopted by Linnaeus, according to whom the butterfly-like bilobed leaves of these plants represent the two Bauhin brothers.



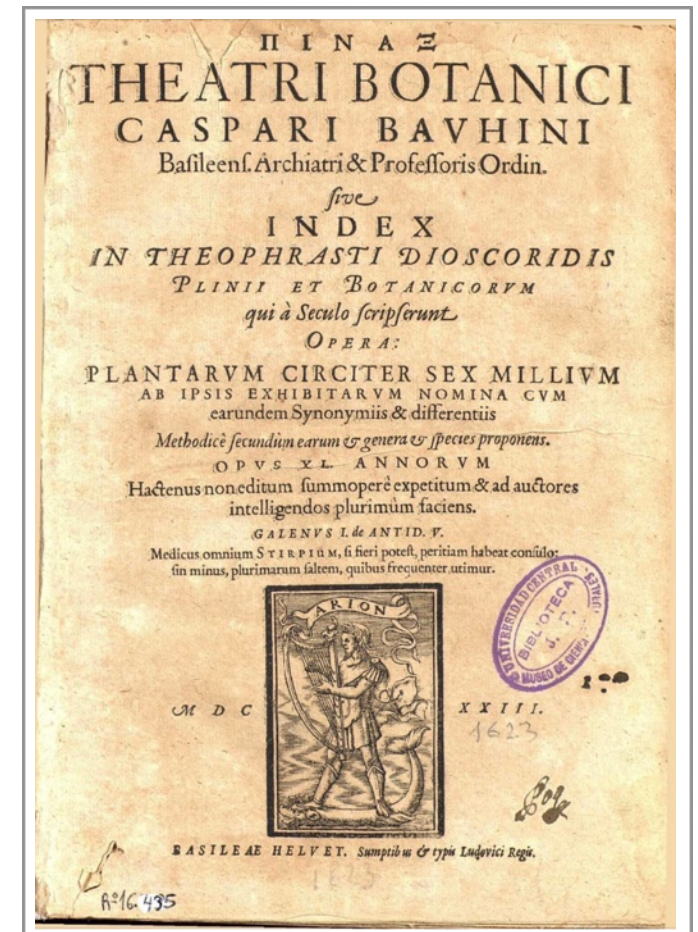
BAUHINIA L. 1753

Gaspard Bauhin



Gaspard (Caspar) Bauhin was born in Basel, Switzerland in 1560 and died there in 1624. As a child he received lessons on anatomy from his father, a physician, and on botany from his older brother, botanist Johann Bauhin. At the age of 12 he entered the University of Basel and in 1575 received a Bachelor of Philosophy. Two years later he enrolled at the University of Padua, in 1579 went to the University of Montpellier and in 1580 to the University of Tübingen (where he studied under Leonhart Fuchs). He also studied at Bologna and Paris. Gaspard returned to Basel in 1581 and later that year became a physician, a year later he joined the Faculty of Medicine. At the university he taught Greek, medicine, anatomy and botany. The latter subject, which was taught during the summer, included field trips and led to the foundation in 1589 of the university's botanical garden.

Bauhin was a highly respected anatomist and his great contribution in this field was *Theatrum Anatomicum infinitis locis auctum* (1592), in which he tried to compile all the knowledge then known on the subject. His main contributions to botany were *Phytopinax...* (1596), a catalog of almost 2500 species (more than 160 new); *Prodromus theatri botanici* (1620), which included



some 600 previously unidentified plants; and *Pinax theatri botanici* (1623), which included more than 6000 plants and is considered the first attempt to include in a single publication all the plants known at the time (in this sense it was a precursor to Linnaeus' *Species Plantarum*). His plant descriptions followed a specific order, beginning with the root, progressing through the stem to the leaves and finally the flower, fruit and seeds.

In his *Pinax*, Bauhin used the traditional classification of trees, shrubs and herbs, but grouped the species into genera using a diversity of characteristics. A synonymy was also provided. Gaspard was a pioneer in the use of genera and also in using short phrases to distinguish species; for example, he called the potato *Solanum tuberosum esculentum*: the solanum with edible tubers. The phrase was sometimes shortened to a single word, thus producing a binomial name. However, this "species" name was meant to be descriptive and not trivial as in Linnaeus' system. Still, as we have seen from this and previous essays, binomial nomenclature was not a uniquely Linnaean invention.

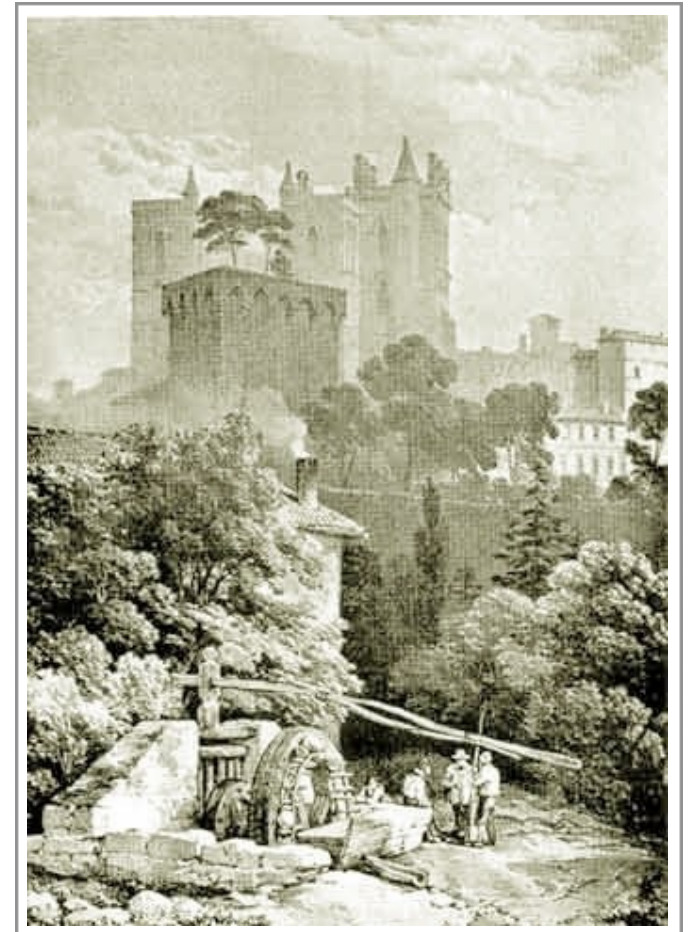
Bauhin's masterpiece in botany was to be a twelve-part *Theatrum Botanicum*, but only the first part (*Theatri botanici liber primus*) was published posthumously in 1658, by his son Gaspard Jean, also botanist and professor at Basel.

Pierre Richer de Belleval



Pierre Richer de Belleval was born in Châlons-en-Champagne, France in 1564 and died in 1632 in Montpellier. He started studying medicine at the University of Montpellier in 1584 and three years later obtained became a physician at the University of Avignon. Soon after graduating he married a lady whose considerable dowry, in the form of an estate, helped support Pierre throughout his life. Between 1587 and 1593 he practiced medicine and gained the favor of the governor of Languedoc. Belleval was later appointed physician of kings Henry IV and Louis XIII. In 1593 he was appointed to the new royal chair of anatomy and botany at Montpellier and two years later received there the degree of Doctor of Medicine.

In 1593 Henry IV of France asked Pierre to establish a botanical garden in Montpellier along the lines of the garden established at the University of Padua in 1545. It would be the first botanical garden in France. To this project Pierre dedicated not only his time but also his fortune. It was Belleval's great contribution to botany because it served as model for the Jardin du Roi in Paris and for other botanical gardens that followed. The garden contained a section for medicinal plants, one for plants from



Languedoc and its surroundings, and one for particularly curious and interesting plants. The engraving reproduced in the preceding page shows part of the garden as it was towards 1593, with the Tower of Pines (part of Montpellier's defenses when it was a walled city) and St. Pierre's Cathedral in the background. One of France's wars of religions destroyed the garden in 1622 and until his death Pierre worked to rebuild it. Today the garden occupies 4.5 hectares and one of its sections contains some 250 species of traditional Mediterranean medicinal plants.

Belleval had some 500 copper plates prepared to illustrate a book on the plants of Languedoc but died before completing the project, which would have made him one of the most important botanists of the time. Some 300 of the plates were bought by botanist Jean Emmanuel Gilibert and published in *Démonstrations élémentaires de botanique: Partie des Figures*. (1796). One of these plates is reproduced here.



PARKINSONIA L. 1753

John Parkinson



John Parkinson was born probably in Nottinghamshire, England in 1567 and died in 1650 in London. Little is known about his childhood and early education, other than it took place in Yorkshire and that by age 14 years he was in London as apprentice to an apothecary (pharmacist). By 1617 he had advanced to become member of the governing board of the Worshipful Society of Apothecaries, and was also apothecary to James I. In 1625 he became apothecary to Charles I, who later gave him the title of *Botanicus Regius Primarius*. John had a 2-acre botanical garden with over 475 plant species, many exotic, and communicated with gardeners, herbalists and botanists in England and mainland Europe.

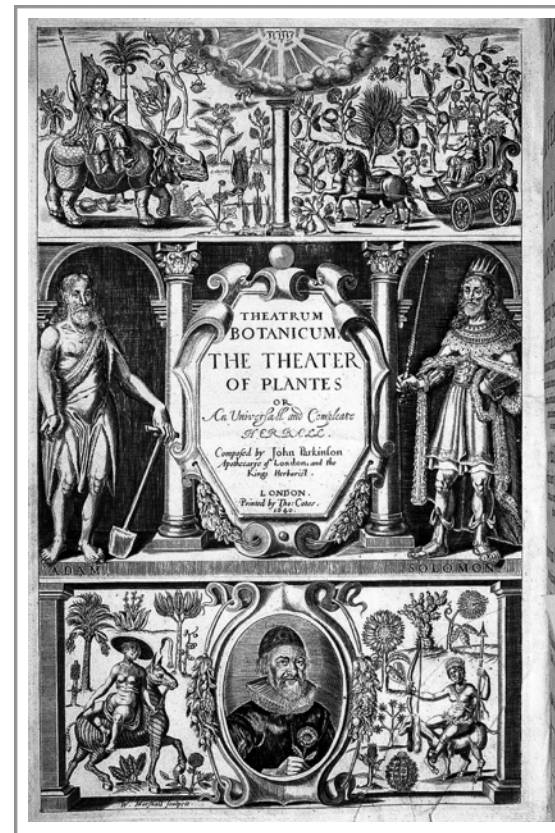
Parkinson made two important contributions to botany. The first is the 630-page *Paradisi in Sole Paradisus Terrestris* (1629); although the title suggests otherwise, the text is in English. It is considered the first purely horticultural book published in England and is divided into three gardens: flowers, kitchen herbs and orchard plants, with instructions for maintaining each garden. Some 800 cultivated plants are illustrated in 108 plates; most illustrations are



original while others, as was common at the time, had appeared in publications by other authors. The cover shows Parkinson's garden with Adam and Eve as caretakers. A second enlarged and corrected edition was published in 1656. The book is an important guide for determining when many cultivated plants were imported to England.



The second important contribution is the massive 1750-page *Theatrum Botanicum, or an Universal and Compleat Herball*, published in 1640, also in English. It was intended as a guide for apothecaries, and describes and illustrates over 3800 plants. The illustrations are original. Parkinson made a great effort to correctly identify the plants and provided synonyms.



Parkinsonia is another generic name proposed by Plumier and adopted by Linnaeus.

BROSSAEA L. 1753

Guy de la Brosse

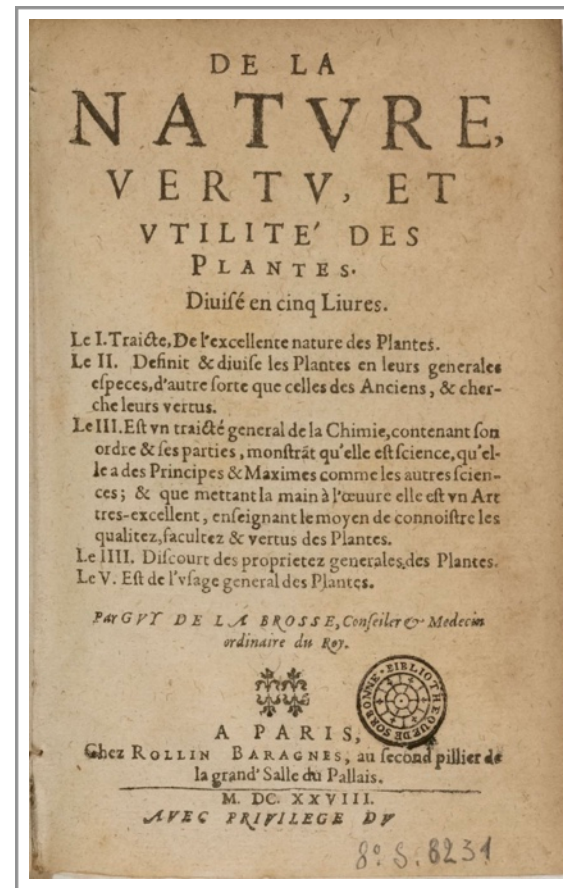


Guy de La Brosse was born in Rouen or Paris, France in 1586 and died in 1641 in Paris. His father was a physician and medical botanist. By 1614 Guy had travelled extensively in France and was in Paris botanizing and studying chemistry. By 1619 he was physician to Henri, Prince of Condé, and in 1626 was one of the physicians to Louis XIII. He most likely studied medicine at Montpellier. As early as 1616 Guy was pushing for the establishment of a royal botanical garden that would function as a teaching and research institution, as well as traditional production of medicinal plants (at the time the only important garden in Paris belonged to botanist Jean Robin). A royal decree for the garden's construction was issued in 1626. The land was purchased in 1633, and when a year later de la Brosse presented his plan, more than 1500 species had already been planted. The garden was inaugurated in 1640 with de la Brosse as its first director. Called initially Jardin du Roi, and after the French Revolution Jardin des Plantes, it occupies today 28 hectares and is part of the National Museum of Natural History. Guy was buried in the garden's chapel.

In 1628 de la Brosse published *Dessin du Jardin Royal pour la culture des plantes médicinales...*,



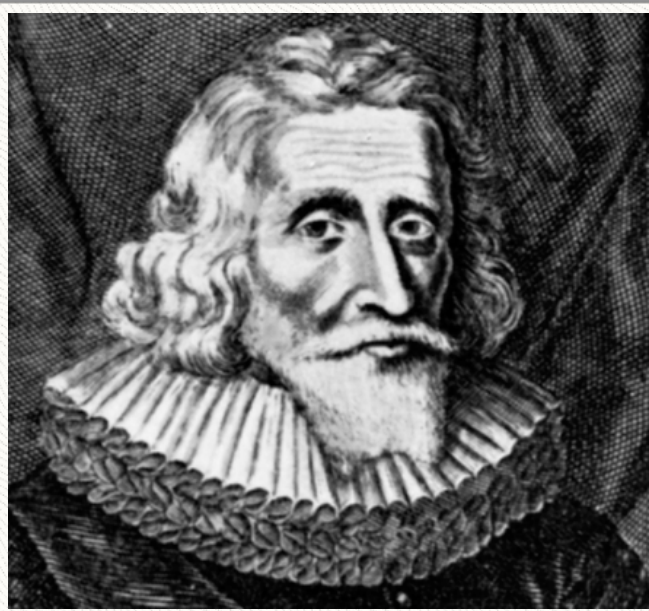
which included a catalog of the plants grown in the garden; a second edition was published in 1640. He planned a larger illustrated publication for which artist Abraham Bosse prepared 400 copper plates, but died before finishing it. Most of the copper plates were sold as scrap metal, one of the few survivors is reproduced in the preceding page. Guy's most important publication is the five-part and almost 700 pages long *De la nature, vertu et utilité*



des plantes (1628), a treatise on plants including their biology and chemistry. The book is dedicated to Cardinal Richelieu, chief minister of Louis XIII, and whom De la Brosse visited repeatedly to obtain funding for the king's garden.

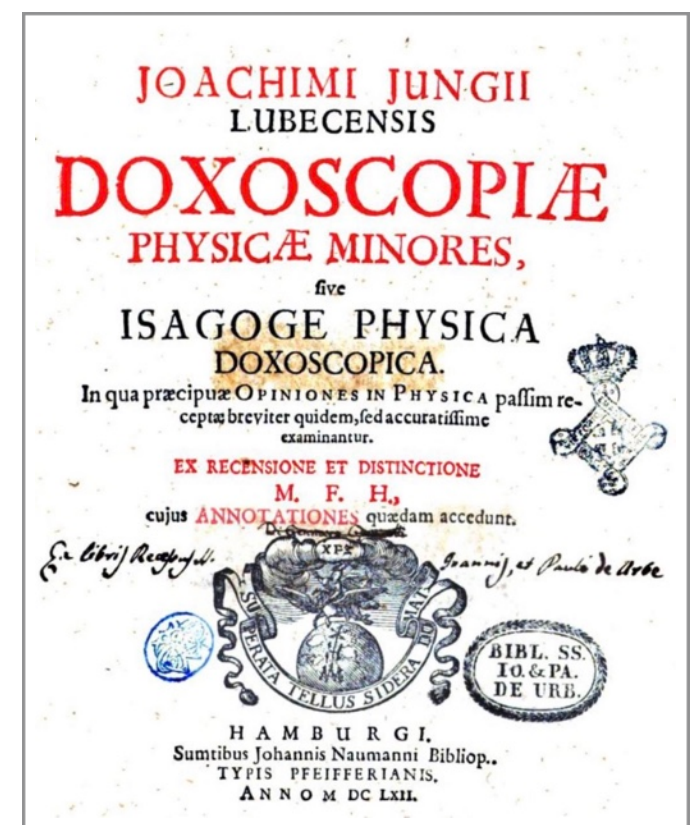
Brossaea is one of many generic names proposed by Plumier and adopted by Linnaeus. *Guidonia* Miller 1754 honors Guy de La Brosse and Guy Crescent Fagon, his successor at the Jardin du Roi.

Joachim Jungius



Joachim Jungius was born in Lübeck, Germany in 1587 and died in 1657 in Hamburg. He studied philosophy (metaphysics) at the universities of Rostock and Giessen, graduating from the later in 1608. He then taught mathematics at Giessen and in 1616 returned to Rostock to study medicine, finishing the degree three years later at the University of Padua. During the coming years he would practice medicine at Lübeck, teach mathematics at Rostock and teach medicine at the University of Helmstedt. He stressed to his students the importance of critical thinking, a view perhaps nurtured at Padua, where he worked under Santorio Santorio, a pioneer of the quantitative approach to the life sciences.

Jungius is best known as a logician and as author of the textbook *Logica Hamburgensis* (1638). However, he also made important contributions to botany (at that time physicians were also botanists). His two contributions to this field are *Doxoseopiae Physicae Minores* (1662) and *Isagoge Phytosopia...* (1678). In the second work he introduced a new terminology for the study of plants, coining terms such as spica, panicula, umbella and carymbus to describe inflorescences. He also distinguished between simple and compound leaves, and through careful study of flowers was able to recognize



plant groups such as the Compositae, Labiatae and Leguminosae. He also dismissed the use of scent, taste, color and medicinal uses as important taxonomic characters, and criticized the classical division of the plants into trees, shrubs and herbs.

The reader may have noted that Jungius' contributions to botany were published posthumously. This happened because Jungius left in his will funds for scholarships to be awarded to students of mathematics and metaphysics who would, as part of their duties, finish his unpublished manuscripts. He did not publish them himself due to fears of retaliation.

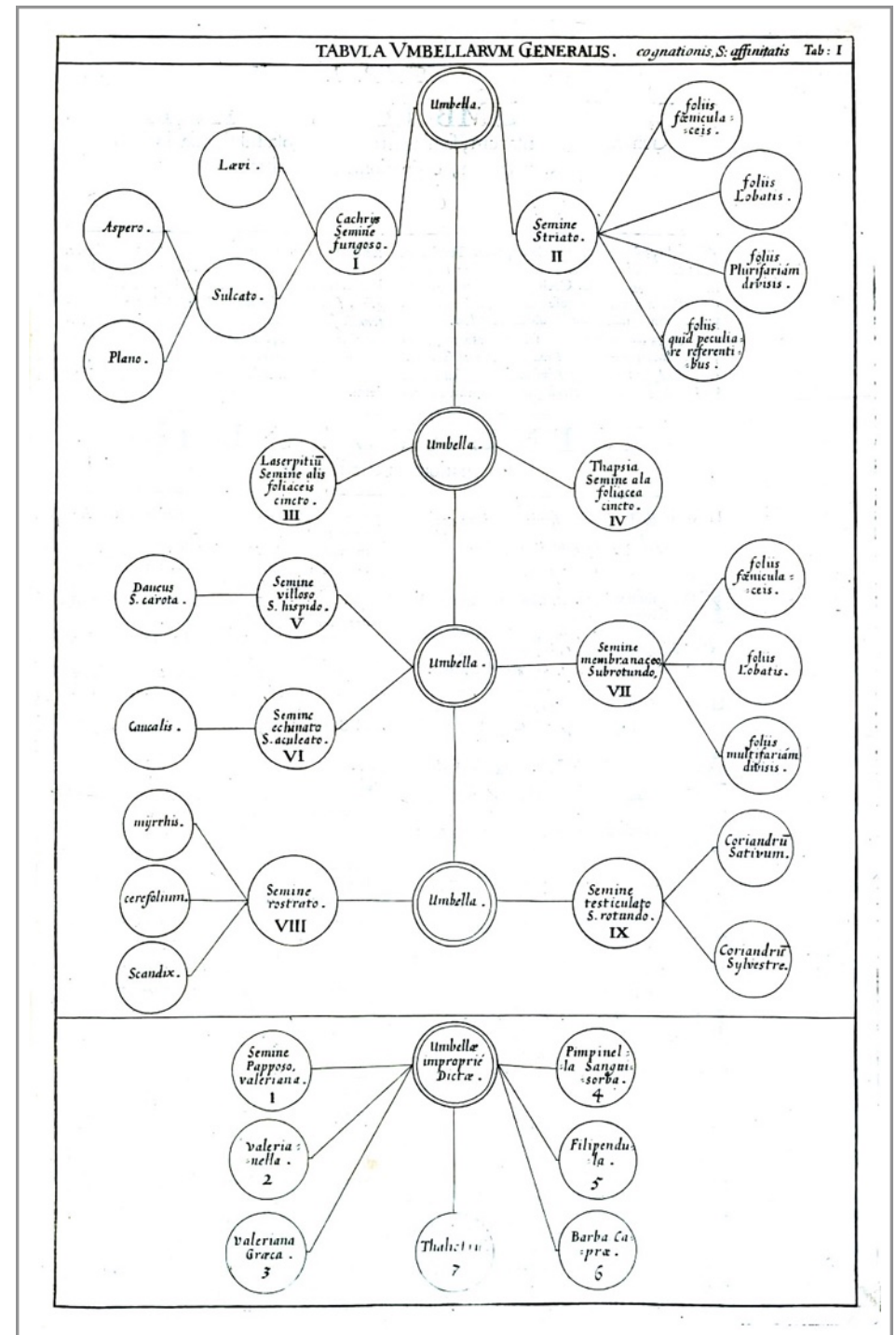
The contributions of Jungius to botany have been mostly overlooked by biologists, but through his influence on botanists such as John Ray, who in turn influenced Linnaeus, he was important in modernizing the study of plants.

MORISONIA L. 1753

Robert Morison



Robert Morison was born in Aberdeen, Scotland, in 1620 and died in 1683 in London. He died as a result of injuries caused by what today would be called a car accident, having been hit by the pole of a horse-driven carriage while crossing a street. Curiously, Joseph Pitton de Tournefort died of a similar injury. Morison obtained a Master of Arts from the University of Aberdeen in 1638; a year later he was seriously injured while fighting for the royalist side in the English Civil War. After recovering, and realizing that his political cause was lost, Morison fled to France, entered the University of Angers and in 1648 graduated as a physician (at the time essentially synonymous with botanist). Upon recommendation of Vespasian



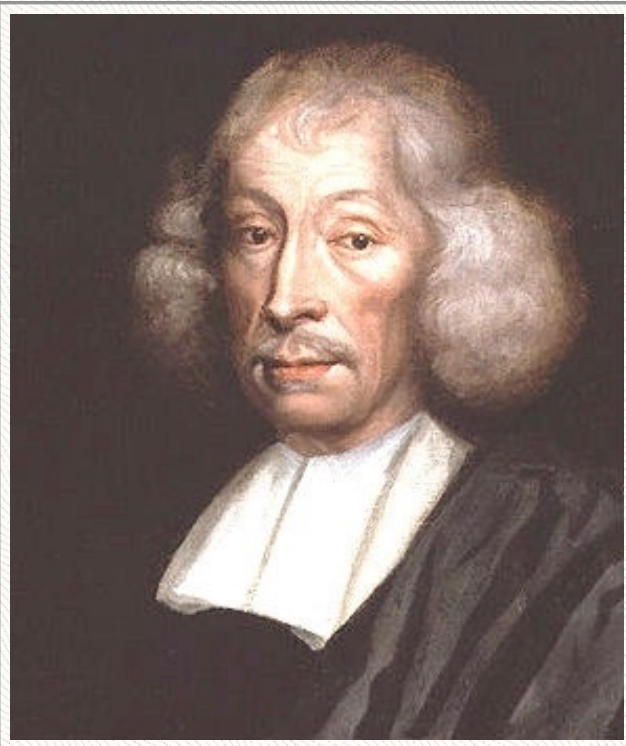
Robin, botanist to the king of France, Morison was appointed director of the Royal Gardens at Blois, a position he held for a decade. In 1660, following the restoration of the monarchy, he returned to England to become personal physician to Charles II and superintendent of the royal gardens. In 1669 he became the first professor of botany at Oxford University, a position he held until his death.

Morison's major contribution to botany were the four-part *Praeludia Botanica* (1669), *Plantarum Umbelliferarum Distributio nova, per tabulas cognationis et affinitatis* (1672) and the four-part *Plantarum historiae universalis Oxoniensis* (published posthumously). In the first work he argued for the use of fruits and seeds in classification, instead of alphabetical order, overall appearance and practical uses. This suggestion went against tradition and his open criticism of the Bauhin brothers offended many colleagues. In the second work, which is considered the first monograph on a particular group of plants (umbellifers, today's Apiaceae), he used seed characters, tables and diagrams (one is reproduced in the preceding page) to distinguish and sequentially define groups of species. Similar tables and diagrams would become popular during the following century.

Morisonia was proposed by Plumier and adopted by Linnaeus, who stated that Morison clearly influenced Tournefort while at the same time having been influenced by Cesalpino.

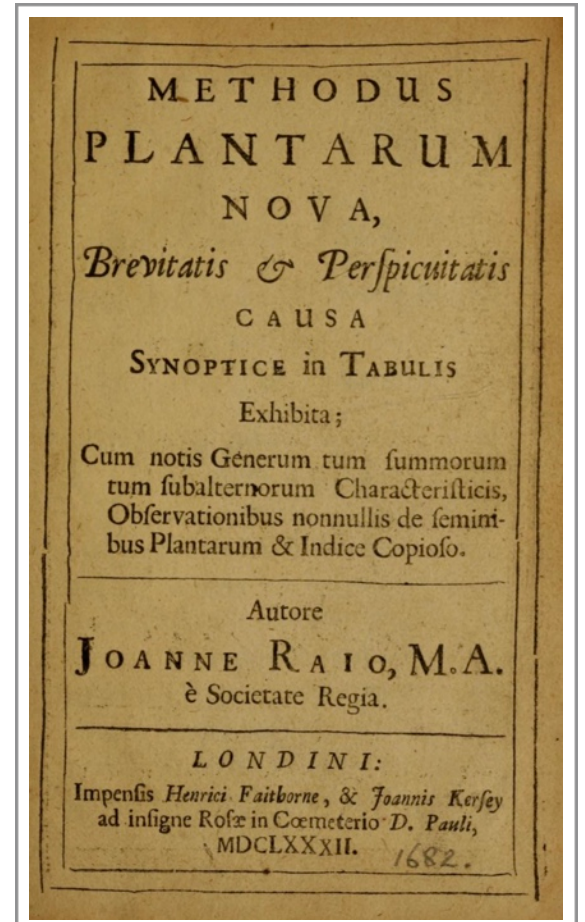
RAJANIA L. 1753

John Ray

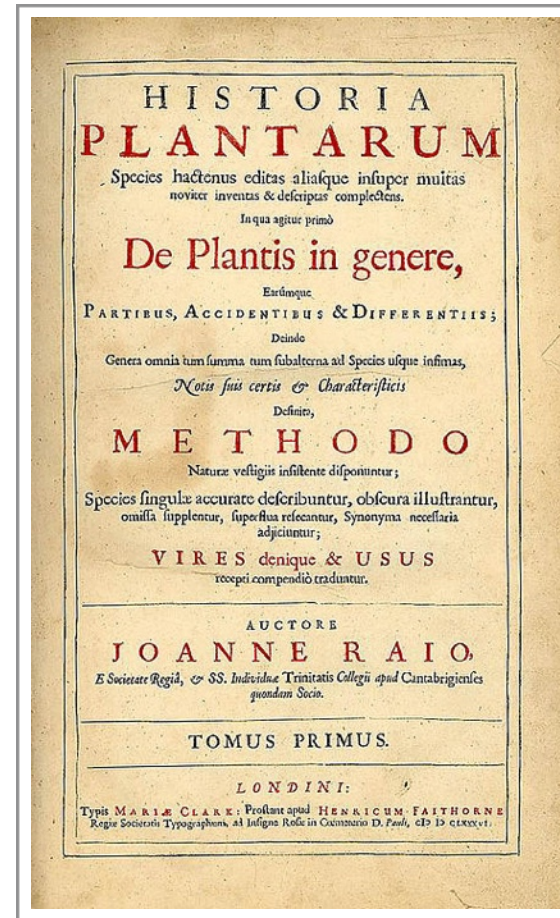


John Ray (Joannes Rajus. thus *Rajania*) was born in the village of Black Motley, Essex, England in 1627 and died there in 1705. At 16 he entered Cambridge University, where he graduated and taught Greek, humanities and mathematics. John also preached and was ordained minister in 1660. During this time he studied natural history and botany, the interest in plants having derived from his mother, who was the village's healer/herbalist. He also traveled Great Britain collecting plants. Although he had a successful career, Ray and thirteen colleagues left Cambridge in 1662 after refusing to submit to the Act of Uniformity passed on that year by parliament.

At Cambridge, Wray had become a close friend of naturalist Francis Willughby, who would help him economically for years, including the three (1663-1666) that both plus two other of Ray's pupils spent traveling Europe, collecting plants and animals. The close relationship between Wray and Willughby resembled that between Linnaeus and Peter Artedi, with both pairs of men deciding to study all of nature, Ray (and Linnaeus) in charge of the plants and Willughby (and Artedi) in charge of the animals. In both cases their friends would die young and it would be up to Ray and Linnaeus to finish and publish the others' work.



Ray made important contributions to botany, one of them being the first biological definition of the species. It said essentially that all plants derived from the seeds of the same plant belong to the same species, regardless of the variation observed among individuals, and that such variations or imperfections had no importance in taxonomy. The concept was proposed and developed in his *Methodus plantarum nova...* (1682).



Another important contribution appeared in the three-volume *Historia Plantarum...* (1686-1704), where, although Ray kept the large classical divisions of *Herbae* and *Arborae*, he subdivided the first into *Imperfectae* (cryptogams) and *Perfectae* (seed plants), subdividing the later for the first time into *Monocotyledons* and *Dicotyledons*; the *Arborae* were also subdivided into *Monocots* and *Dicots*. No weight was given in this classification to the plant's practical uses. Ray's emphasis on the use of many characters to classify plants was also an important step towards a natural classification of plants and would influence taxonomists during the 18th and 19th centuries.

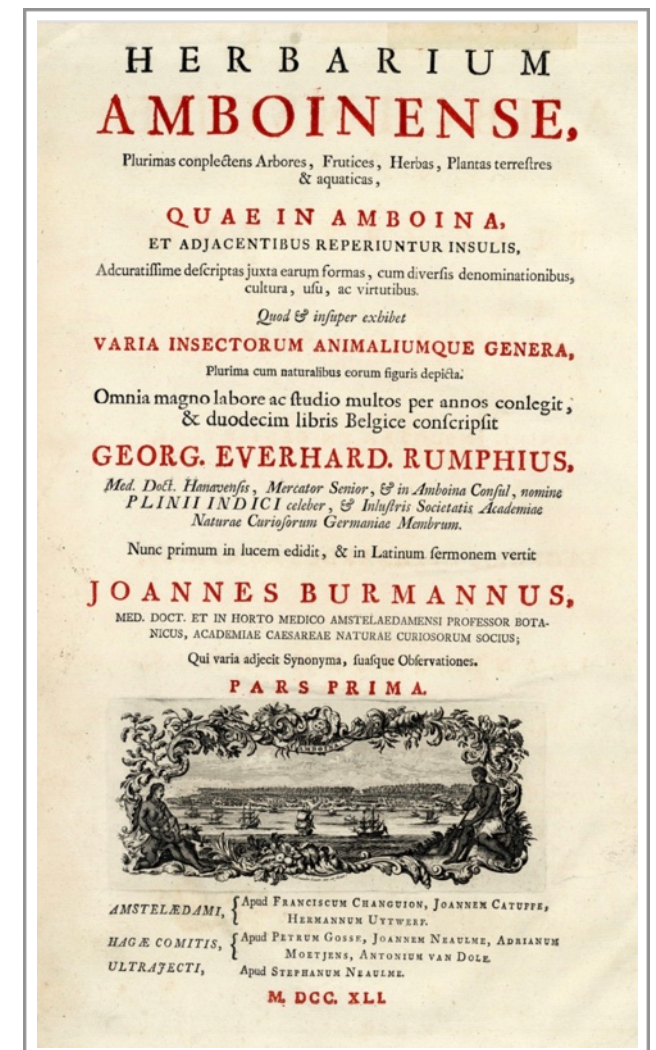
RUMPHIA L. 1753

Georg Eberhard Rumphius



Georg Eberhard Rumphius (Rumpf) was born in Münzenberg, Germany in 1627 and died in 1706 in Ambon, Maluka Islands, Indonesia. He grew up in Wölfersheim and was educated at the Gymnasium in Hanau. Georg was fluent in Dutch and was hired as a soldier by the Dutch West India Company, ending up in a ship headed for South America, where the Dutch and Portuguese were in conflict over territory. The ship was captured and Rumphius landed in Portugal, where he stayed almost three years, before returning to Hanau to work for his father. Following his mother's death in late 1651, Rumphius accepted a position as a low-ranking officer with the Dutch East India Company and sailed to Batavia, arriving in 1653 and relocating a year later to the island of Ambon. Over the next eight years he ascended to the position of merchant. At this time and with support from the the governor of the colony, Georg began to study the rich biota of Ambon and surrounding islands. In 1681 he became member of the Academia Naturae Curiosorum in Vienna.

Rumphius' main contribution to botany was the six-part *Herbarium Amboinense*. Publishing the



work was a long and painful ordeal because glaucoma left him blind in 1670, part of the material along with Georg's library was consumed by fire, and the completed manuscript was lost at sea on its way to Holland. The team resumed work based on a copy and when the manuscript finally reached the Netherlands in 1696, the East India Company objected to its publication because it had information that should not be revealed to the public. The original text in



Dutch, titled *Het Amboinsche kruidboek*, was translated into Latin by Joannes Burman and in both languages was finally published from 1741 to 1750; that is, decades after Rumphius' death.

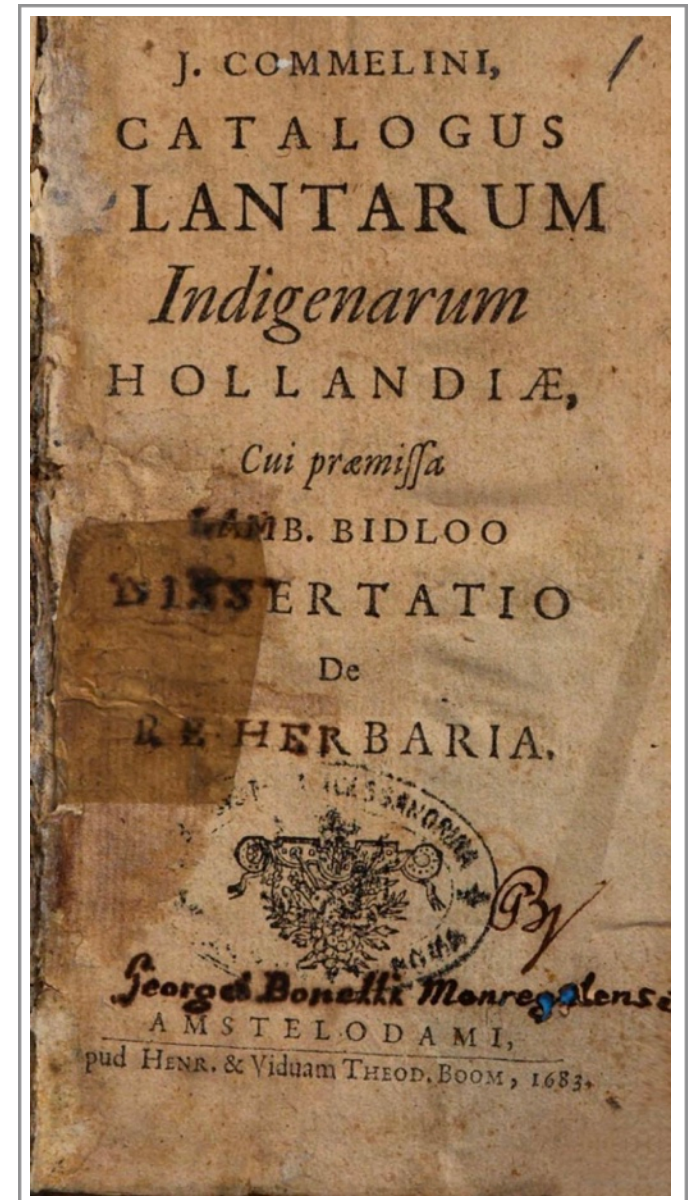
Herbarium Amboinense covers some 1200 species of plants and contains 350 beautiful illustrations, the one above corresponds the the durian (*Durio zibethinus*), a fruit famous for its pungent aroma. The cloves tree (*Syzygium aromaticum*) and the starfruit (*Averrhoa carambola*) were also described and illustrated by Rumphius.

COMMELINA L. 1753

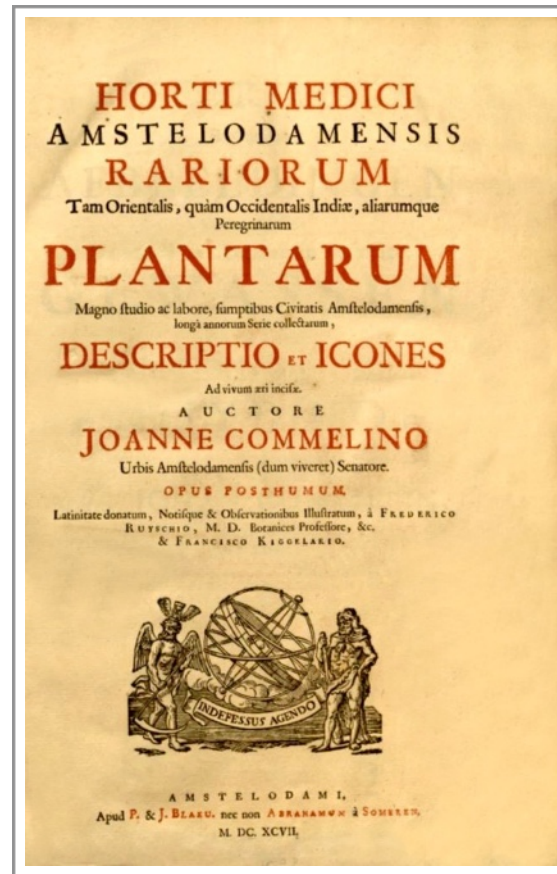
Jan Commelin



Jan Commelin was born in Leiden, Holland in 1629 and died in 1692 in Amsterdam. His father Isaac Commelin and his uncle Jacob Commelin owned a publishing company. Jan did not pursue a formal education in science or botany, but learned about the subject from his business as merchant of pharmaceuticals, mostly medicinal plants that he grew, and plant-derived products that he sold to drugstores and hospitals. During this time many new plants were imported to Holland from its overseas colonies and there was a substantial market for products of medicinal use. Jan was also interested in plants with ornamental value. The business was very successful, Commelin made a fortune and he became an influential member of society and government. In 1676 he bought an estate and established in it a large collection of exotic plants. In 1682 he became one of the two commissioners for a new *Hortus Medicus* to be established in Amsterdam and which would later become a botanical garden (*Hortus Botanicus*). The garden's professor of botany was Frederik Ruysch.



Jan made three important contributions to botany. In 1683 he published *Catalogus Plantarum Indigenarum Hollandiae*, the first flora of Holland, enriched with many ecological observations. The second was *Catalogus plantarum Horti Medici Amstelodamensis pars prior*, which listed some 2200 plants classified according to John Ray's system; this was published by his brother Caspar Commelin (father of botanist Caspar Commelin).



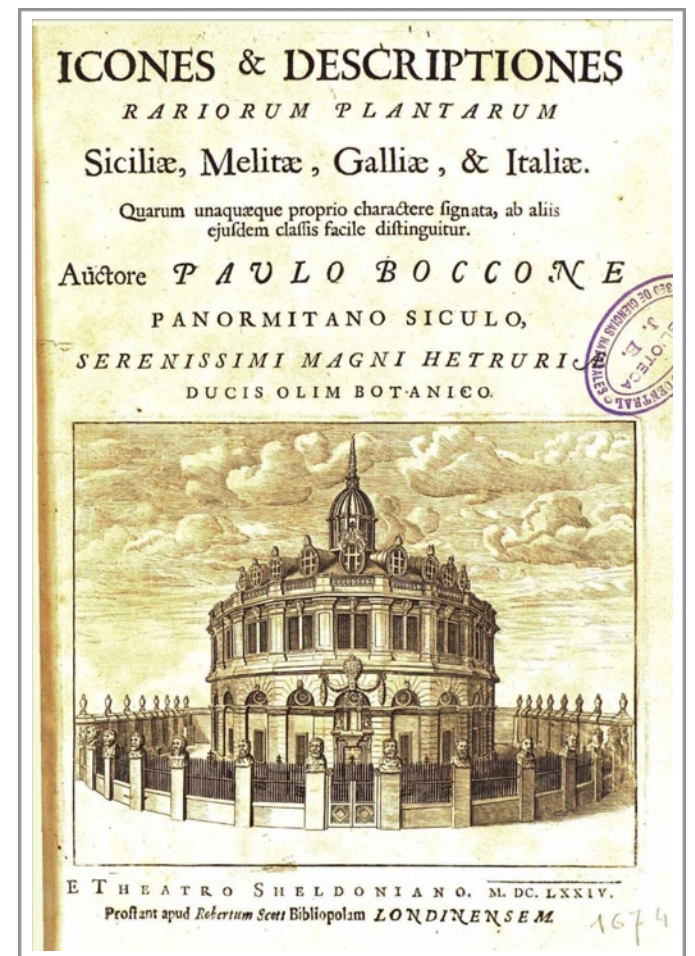
The third contribution was the two-volume *Horti Medici Amstelodamensis Rariorum...* published posthumously in 1697; this book contained plants from the Dutch colonies in America and the Orient, and is beautifully illustrated by Dutch painter Jan Moninckx and his daughter Maria Moninckx.

Jan also made a substantial contribution as annotator and editor of volumes 2 to 12 of *Hortus Malabaricus*, which describes the flora of the Western Ghats region of India. This work, compiled over a period of three decades, and to which more than a hundred people contributed, was published from 1678 to 1693. See the essay about Caspar Commelin for information on the origin and etymology of *Commelina*.



Paolo Boccone was born in Palermo, Sicily, Italy in 1633 and died in 1704 in Altofonte, near Palermo. Not much is known about his youth, but he was born into a rich family and at a young age developed an interest in botany. His first teacher in this field was botanist Pietro Castelli, who in 1634 moved from Rome to Messina, Sicily, and founded the Messina Botanical Garden. Boccone obtained a doctoral degree at the University of Padua and worked there as professor. He was also botanist to Ferdinando II de' Medici, Grand Duke of Tuscany and to his son Cosimo III. At the age of 50 he became a Cistercian monk and took the name Silvio, for this reason he is also known as Paolo Silvio Boccone. Paolo travelled extensively and collected plants in Sicily, Corsica, Malta, Italy, England, France and Germany. During his travels he also established contacts with important botanists. While in a monastery in Rome he taught botany to Charles Plumier. He was a contemporary of Francesco Cupani, also a Sicilian botanist.

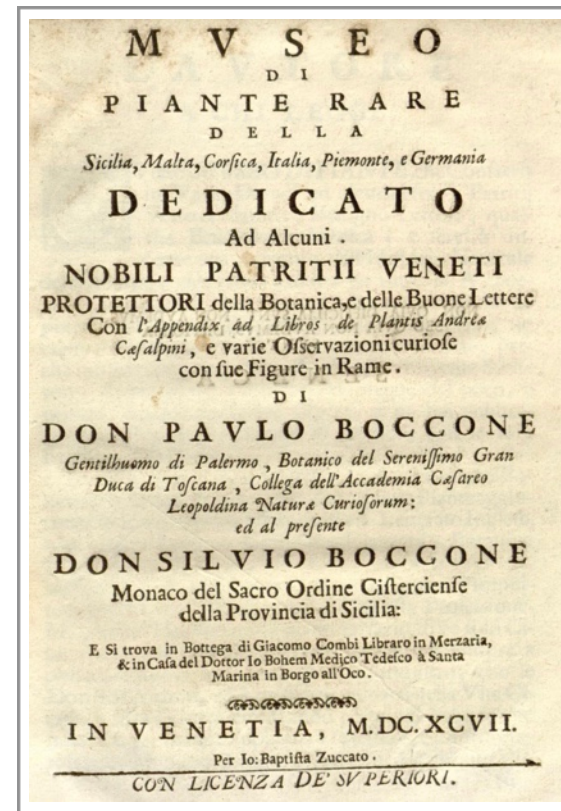
Boccone published many works on a variety of subjects. One of his most important contributions to botany is *Icones et descriptiones rariorum plantarum Siciliae, Melitae, Galliae, et*



Italiae (1674), a 96-page illustrated publication with descriptions of rare plants that he collected in Sicily, Malta, France and Italy. It was published in London and has a foreword by Robert Morison.

Along the same line is another of his best-known publications, *Museo di piante rare della Sicilia, Malta, Corsica, Italia, Piemonte, e Germania...* (1697), which has 196 pages of text and 130 plates of illustrations. This work was published in Venice. Note in the cover the two names Paolo Boccone and Silvio Boccone.

Bocconia is another generic name proposed by Plumier and adopted by Linnaeus, who was keen on honoring deserving botanists with plant names.



DODARTIA L. 1753

Denis Dodart

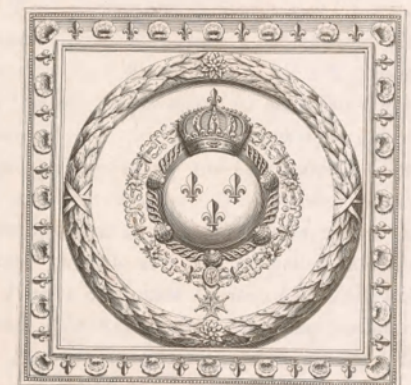


Denis Dodart was born in Paris in 1634 and died there in 1707. His father, a notary public with a passion for literature, provided for his son to receive a broad education which included classic languages, music and painting. In 1660 Denis finished the Doctorate of Medicine at the University of Paris. He was so highly regarded by Guy Patin, dean of the Faculty of Medicine, that in a letter he described Dodart as one of the wisest men of the century and a science prodigy. After graduating, Denis worked as physician for the prestigious Conti family and was later one of the physicians to the king. In 1666 he obtained the degree of Doctor of Pharmacy and was named professor at the university. In 1673 he was elected member of the French Academy of Sciences. At his estate he had the most important garden in Paris before the construction of the Jardin du Roi.

Since its foundation in 1666, the French Academy of Sciences had identified as one of its major projects a comprehensive history of the plants. Dodart was asked to prepare an introductory paper that was published in 1676 under the title *Mémoires pour servir à l'histoire des plantes*. The work is 131 pages long, the first half contains general information about the project

MEMOIRES POUR SERVIR A L'HISTOIRE DES PLANTES.

Dressé par M. DODART, de l'Académie Royale des Sciences,
Docteur en Médecine de la Faculté de Paris.



A PARIS,
DE L'IMPRIMERIE ROYALE.

M. DC. LXXVI.

and the plants, and the second is dedicated to the descriptions of 31 plants, each one with a beautiful facing plate; the plate reproduced here belongs to the Brazilian plant *Serpentaria triphylla*, thus named for its three leaflets. The illustrations were the work of painters Abraham Bosse and Nicolas Robert, with the engraving done by L. de Chatillon. A second edition of the work appeared in 1769 but the great project of the society never became a reality.



Dodart experimented with plant physiology and reproduction, publishing his observations in the Mémoires de l'Académie royale des sciences. A contributions about plant growth is titled *Sur l'affectation de la perpendiculaire remarquable dans toutes les tiges, dans plusieurs racines et autant qu'il est possible dans toutes les branches des plantes*. One on reproduction it titled *Second mémoire sur la fécondité des plantes*.

Dodartia is another of many generic names proposed by Tournefort and adopted by Linnaeus.

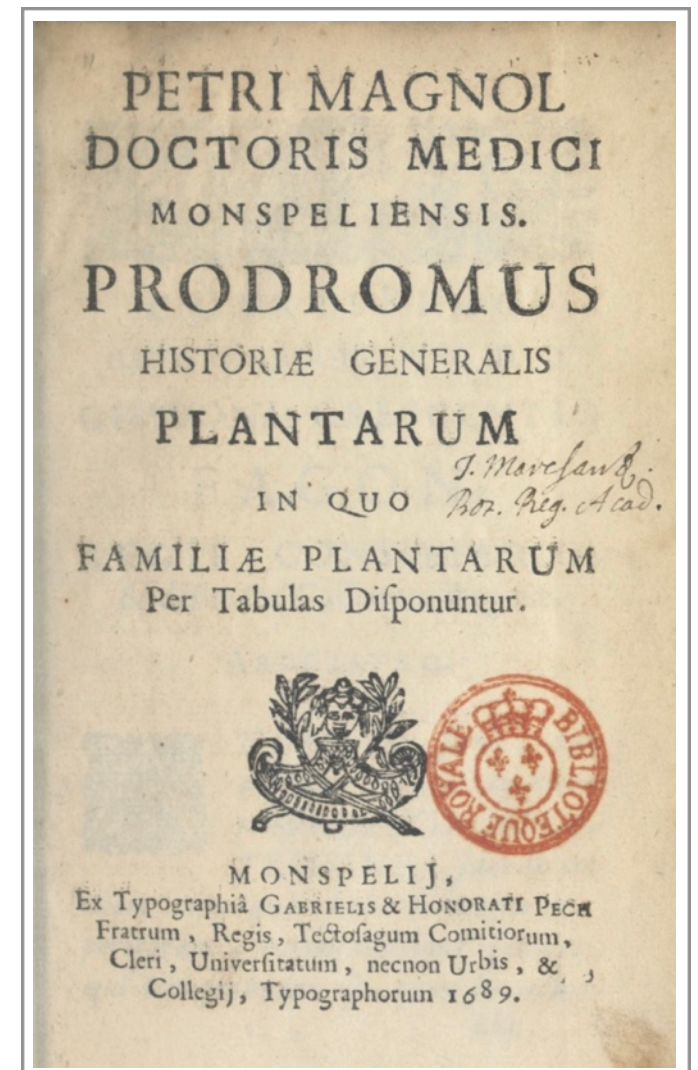
MAGNOLIA L. 1753

Pierre Magnol



Pierre Magnol was born in Montpellier, France in 1638 and died there in 1715. His grandfather and father were apothecaries (pharmacists) and his mother came from a family of physicians. Pierre entered the University of Montpellier in 1655 and graduated as a physician in 1659. He then decided to concentrate in the study of plants, travelled to collect material, and established contact with the most important botanists of the time. When the Edict of Nantes was revoked by King Louis XIV in 1685, Pierre converted to catholicism and was finally able to advance professionally: in 1687 he became demonstrator of plants at the Montpellier botanical garden, in 1693 court physician, in 1694 professor of medicine at the university and in 1696 director of the botanical garden. In 1709 he was elected to substitute Joseph Pitton de Tournefort in the Paris Royal Academy of Science. Tournefort and brothers Antoine and Bernard de Jussieu had been Pierre's students.

Magnol's first publication was *Botanicum Mompeliense...* (1676), in which he provides descriptions for some 1350 species from the surroundings of Montpellier, most collected by himself. An expanded and updated version of



this publication appeared in 1686. In 1697 he published the eight-volume *Hortus regius Monspeliense...*, a complete catalog of the plants growing at Montpellier's botanical garden. Another important publication, *Novus caracter plantarum...*, was published posthumously in 1720 by his son Antoine.

Magnol's main contribution to botany was *Prodrromus historiae generalis plantarum, in quo familiae plantarum per tabulas disponuntur* (1689).

In this publication he proposed for the first time the grouping of plants into families (76 of them) based on characteristics gathered from different parts of the plant. By comparing the plant families to human families, Magnol expressed the intention of creating groups based on affinity. The design of his of tables simplified identification and may be considered a precursor to identification keys.

Magnolia is a another generic name proposed by Plumier and adopted by Linnaeus, who remarked that its beautiful leaves and flowers recalled this splendid botanist.



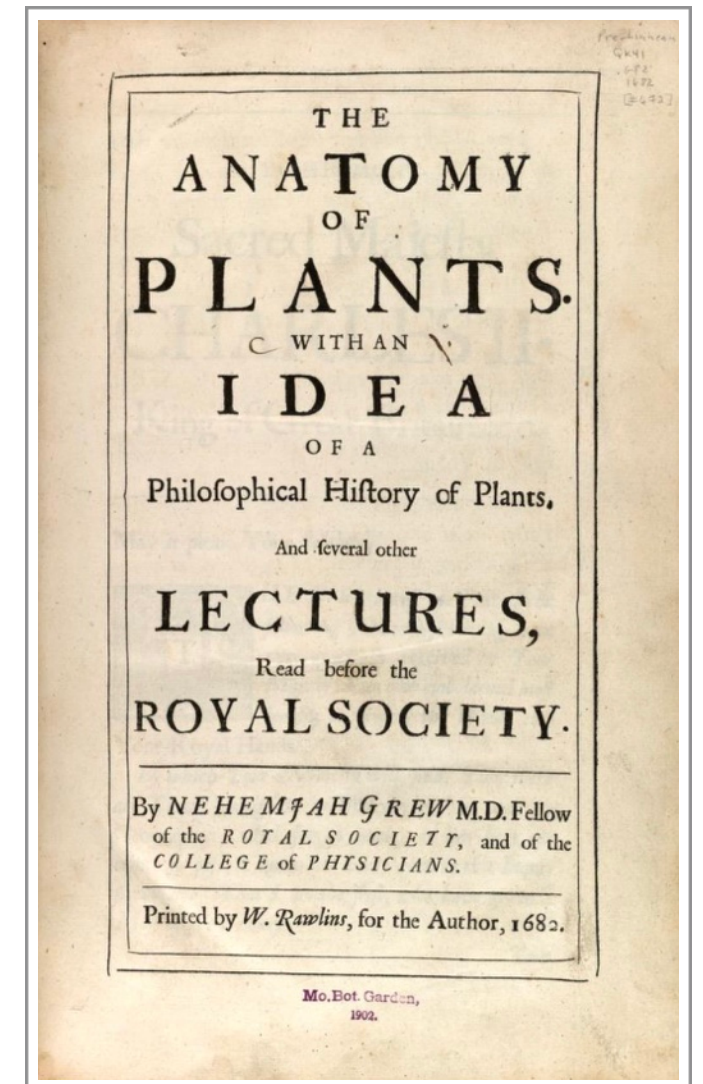
GREWIA L. 1753

Nehemiah Grew



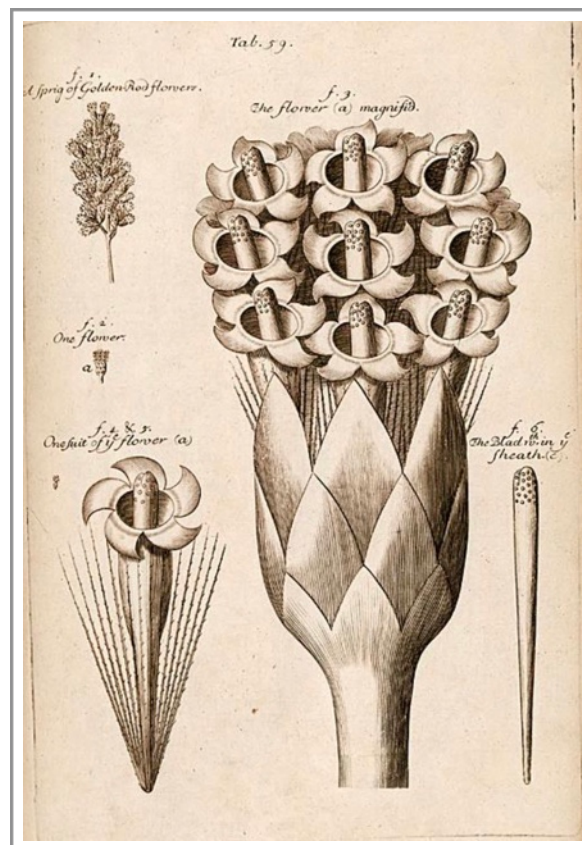
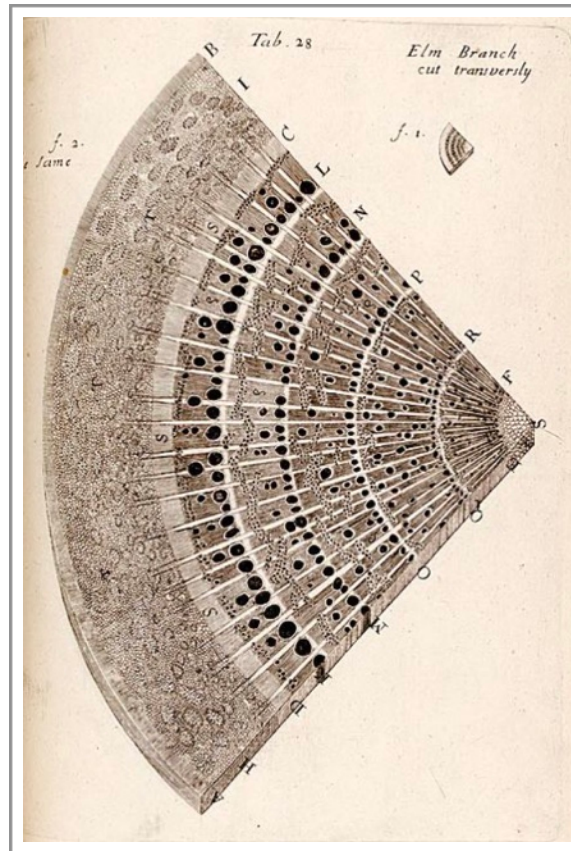
Nehemiah Grew was born in Warwickshire, England in 1641 and died in 1712 in London. He obtained a B.A. from Pembroke College, Cambridge in 1661 and due to religious conflicts went to Leiden University, where he finished the M.D. in 1671. He first practiced medicine in Warwickshire, but in 1672 moved to London and established a successful life-long practice. In 1670 he was elected member of the Royal Society, in 1677 became its secretary and from 1678 to 1679 worked as editor for the society's Philosophical Transactions. Grew first became interested in plant anatomy in 1664, when he realized that animal anatomy had advanced considerably while plant anatomy lagged far behind. His first contribution was a long essay submitted to the Royal Society in 1670 and published by the society in 1672 with the title *The Anatomy of Vegetables begun. With a general account of vegetation founded thereon.*

Grew's main contribution to botany was *The Anatomy of Plants, with an idea of a Philosophical History of Plants* (1682). This publication brings together previously published observations and consists of four sections covering the anatomy of the roots, stems, leaves, flowers, fruits and seeds. The 304 pages of precise descriptions are



followed by 83 plates with detailed woodcut illustrations. In addition to the comparative data on plant anatomy, Grew confirmed that the flowers of the Asteraceae are composed of many units, suggested that the stamens with their pollen are male organs while the pistil is the female organ, and for the first time described pollen in microscopic detail. Grew also showed that pollen structure differs between species but remains constant for each species.

On the same year that Grew submitted his essay to the Royal Society, the society had received Marcello Malpighi's first observations on the same subject. Grew and Malpighi would subsequently borrow from each other's work. Both are considered the Fathers of Plant Anatomy.



PLUKENETIA L. 1753

Leonard Plukenet



Leonard Plukenet was born in Westminster, London in 1641 and died there in 1706. After receiving a basic education at a local school, he studied medicine, but where is unknown; some sources suggest Oxford while others suggest a foreign university. It has been presumed that he practiced medicine in London but no records to support this have been found. Leonard's will indicates that he was a wealthy man, but how he became so is also unknown. In 1690 Plukenet was appointed supervisor of the king's gardens at Hampton Court Palace and received the title of Queen's botanist. Near the end of the century he married and had twelve children. Leonard dedicated much time to learning botany through self study. He had a large library, a large herbarium and corresponded in several languages with the main botanists of the time. Living in London, he had access to the gardens that were receiving new and unusual plants from throughout the world. His work attempted to describe all such plants.

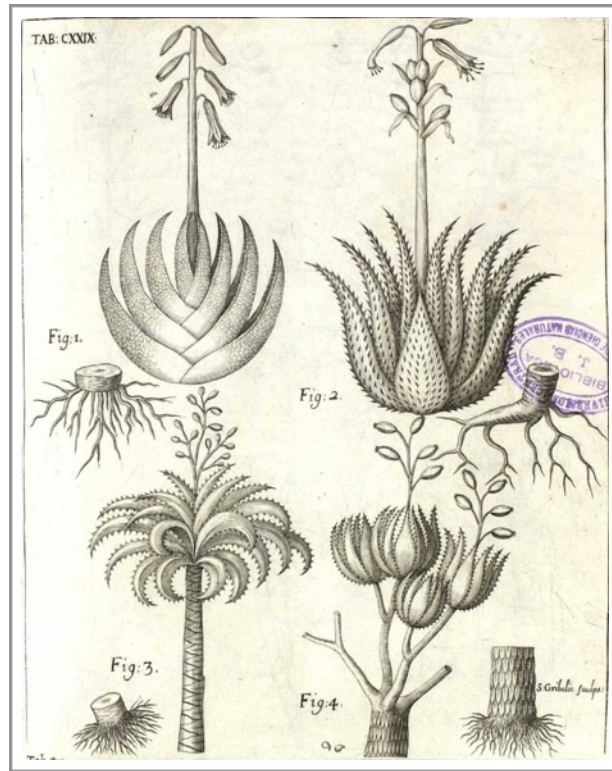
Plukenet's first important contribution to botany is the four-part *Phytographia Sive Stirpium Illustriorum e³ minus cognitarum...* (1691-1696). It describes several thousand plants and contains



350 original plates prepared at the author's expense. The 400-page *Almagestum botanicum...* was published in 1696 and contains 6000 species, 500 of which the author considered new; a supplement to this work, titled *Almagestum botanici mantissa...* was published in 1700. *Amalthæum botanicum...*, which contains 104 plates, appeared in 1705 and includes an index to all

previous work. Plukenet's publications are considered one great corpus of new and rare plants. All were published together in 1720 and again in 1796. Leonard also assisted John Ray with the preparation of the second volume of *Historia Plantarum* (1686); Ray considered him a botanist of the highest order.

It has been said that nearly every page of Linnaeus' *Species Plantarum* refers to one of Plukenet's works. *Plukenetia* is one of the many generic names proposed by Plumier and adopted by Linnaeus, who remarked that the unique structure of this plant's flowers recalls the uniqueness of Plukenet among botanists.



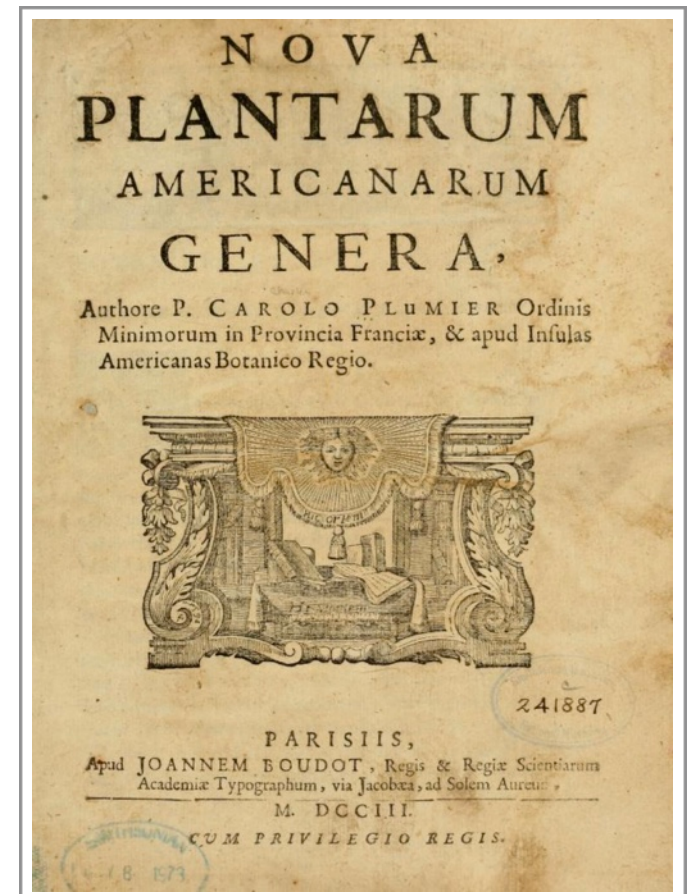
PLUMERIA L. 1753

Charles Plumier



Charles Plumier was born in Marseille, France in 1646 and died in 1704 near Cadiz, Spain. At the age of 16 he entered a Minims convent, where he studied mathematics, physics and drawing, becoming an excellent illustrator. Charles was transferred to a convent in Rome, where he learned botany from Paolo Boccone and Philippe Sargeant, who fostered his interest in plants. Back in France he met Joseph Pitton de Tournefort and accompanied him on botanical excursions. In the late 1680s, Plumier's was chosen by botanist Joseph Donat Surian to be his assistant and illustrator during an 18-month expedition to Martinique and present-day Haiti. Back in France he was appointed King's botanist. In 1693 he travelled again to Haiti and during 1695-1697 travelled to Guadeloupe, Martinique and other Lesser Antilles. He died before embarking on a voyage to Peru to search for the cinchona tree, whose bark was the source of quinine used to treat malaria.

Plumier made three major contributions to botany as a result of his visits to America. The first was titled *Description des plantes de l'Amerique* (1693), in which he described the plants collected during his first trip; the text is accompanied by 108 original illustrations.



The plants observed and collected during the second voyage were the subject of his best-known publication, titled *Nova Plantarum Americanarum Genera* (1703- preceding page)). This work described 106 new genera, the text being accompanied by 40 plates, each containing many detailed drawings. Plumier named more than 60 new genera after people (eponyms), mostly patrons of his expeditions and botanists with whom he had been in contact. Linnaeus liked this idea very much, accepted many of Plumier's genera and erected more genera after patrons and botanists.

Plumier's third major contribution was *Traité des Fougères de l'Amérique* (Treatise on the ferns of America), published in 1705, a year after his death. He left unpublished some 6000 drawings, two thirds of them corresponding to plants; 508 of them were published by Johannes Burmann in an homage published in Amsterdam in 1755-1760 under the title *Plantarum americanarum, quas olim Carolus Plumerius botanicorum princeps detexit*. The phrase *botanicorum princeps* appears in Linnaeus' tombstone as *Princeps botanicorum*.

Plumeria was erected by Tournefort and adopted by Linnaeus, who remarked that this small American tree has brilliant flowers, like Plumier was brilliant among American botanists.

RIVINA L. 1753

Augustus Quirinus Rivinus



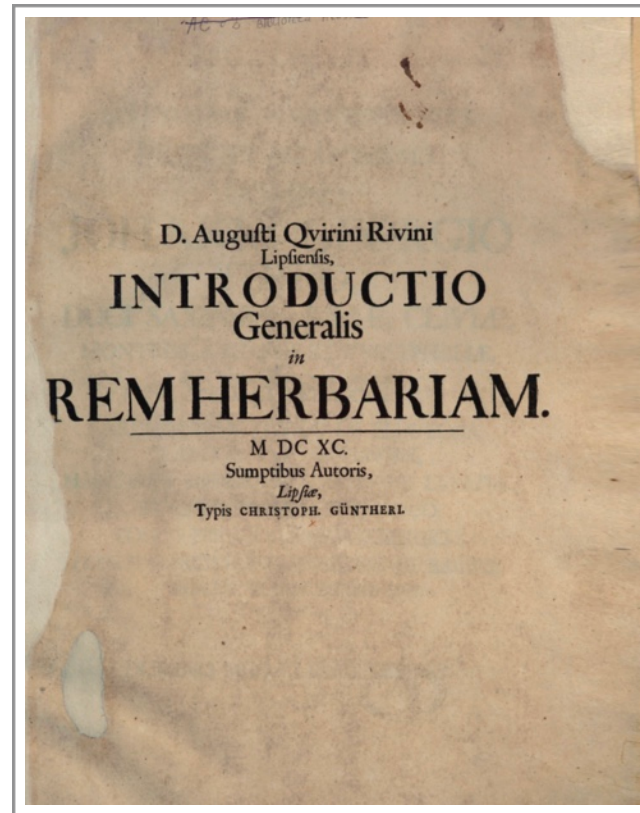
Augustus Quirinus Rivinus was born in Leipzig, Germany in 1652 and died there in 1723. His father, a physician and professor of physiology at the University of Leipzig, had latinized his surname Beckmann to Quirinus. Augustus studied humanities and medicine at Leipzig and in 1676 obtained the physician's degree from the University of Helmstedt. He returned to Leipzig to practice medicine and by 1677 was lecturer in medicine in the university. In 1691 he was appointed to the chair of physiology and botany, in 1701 became professor of pathology, and in 1719 was appointed professor of therapeutics and dean perpetual. His main interest, however, was botany and particularly plant classification. Augustus was also an amateur astronomer and in old age was almost blind from observing sunspots.

Rivinus' main contribution to botany was his classification of plants according to a system that relied mainly on flowers, thus pointing the way to the use of this organ by other taxonomists, including Linnaeus. He also emphasized the use of short plant names, frequently no longer than two words (see figure to the right), and is considered a pioneer of binomial nomenclature.

Augustus divided the plants into 18 classes but works for only three were published due in large measure to



the elevated cost of the plates, which he paid from personal funds. The system emphasized the number and regularity or irregularity of the petals. He realized that this produced an unnatural classification, but so was Linnaeus' classification based on the number of stamens and pistils. The first publication presenting Rivinus' system was



published in 1690 as *Ordo Plantarum quae sunt Flore Irregulari Monopetalo* (plants with one irregular petal). It is preceded by an introduction titled *Introductio generalis in rem herbariam* which has been published separately several times. The second and third parts were *Ordo Plantarum quae sunt Flore Irregulari Tetrapetalo* (1691) and *Ordo Plantarum quae sunt Flore Irregulari Pentapetalo* (1699). A fourth part on the *hexapetalae irregularis* was finished but not published before the author's death. The first three parts contained a total of 385 plates, many with more than one plant. Rivinus, Ray and Tournefort are considered the main systematizers before Linnaeus.

Rivina is another of the many generic names proposed by Plumier and adopted by Linnaeus.

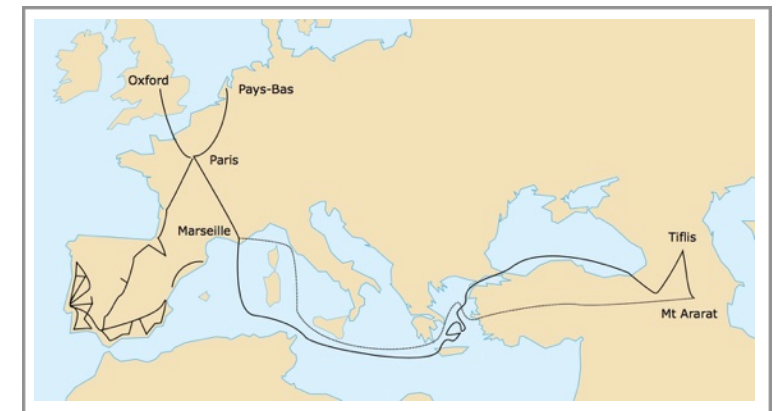
Joseph Pitton de Tournefort



Joseph Pitton de Tournefort was born in 1656 in Aix-en-Provence, France and died in 1708 in Paris. He studied at the local Jesuit convent because his father had decided that Joseph would devote his life to the Church. However, his father's death in 1677 allowed Tournefort to change plans and pursue a career in medicine and botany. Joseph studied at Montpellier, where his botany professor was Pierre Magnol, and soon after graduating in 1683 was hired to substitute Guy Fagon as professor of botany at the Jardin du Roi. Here he would work the rest of his life. Previously known as the Jardin du Roi, the garden is today part of the National Museum of Natural History in Paris.

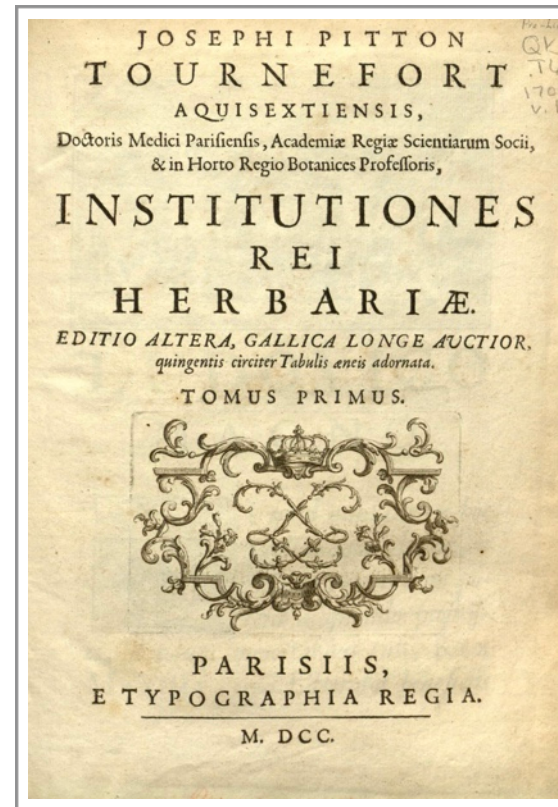
Tournefort had a passion for traveling and botanizing (an old term for collecting plants and studying them in their natural habitat). While studying he travelled and collected plants in the company of friends and botanists Charles Plumier and Pierre Garidel. While working in Paris he travelled east as far as Georgia and Persia

accompanied by botanist Andreas von Gundelsheimer and botanical illustrator Claude Aubriet (who would become the main illustrator at the Jardin du Roi). These trips were sponsored by the king and Tournefort was expected to gather information about the people, their governments, infrastructure, commerce and religion, but there was ample time to collect and eventually assemble a herbarium of



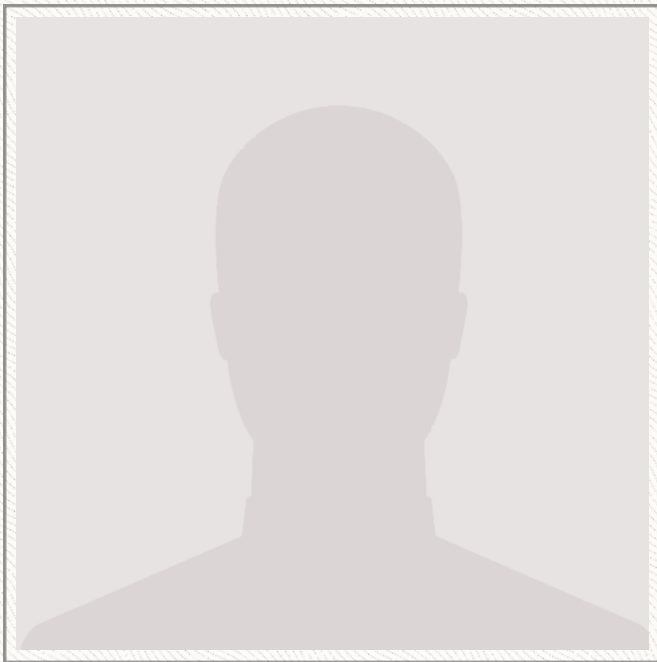
thousands of plants. His trips and collecting activities also gave him a broad understanding of plant diversity and ecology.

Tournefort's main contribution to botany was his *Éléments de botanique ou méthode pour connaître les plantes*, published in 1694 but better known by its Latin translation *Institutiones rei herbariae*, which appeared in 1700. The first volume of *Institutiones* consists of text while the other two contain almost 500 accurate illustrations by Claude Aubriet. Although the main plant groups in Tournefort's classification were the classic trees, shrubs, shrubby herbs and herbs used, among others by Cesalpino, at the generic level he used flowers, fruits and seeds. The system was artificial but simple to use and became very popular, especially in France, where botanists continued to use it even after Linnaeus's system was widely adopted elsewhere. The main emphasis of Tournefort's work was the category of the genus, which he helped define and for which he proposed more than 700 names. Linnaeus was exposed to Tournefort's method early in his life and arranged his first collections according to this system. Later he would adopt many of Tournefort's generic names.



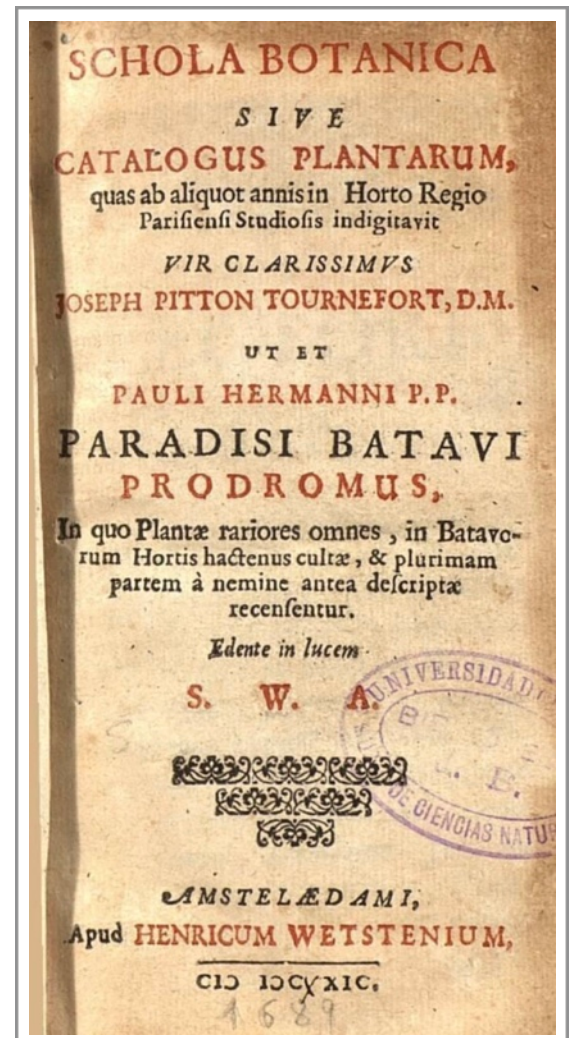
SHERARDIA L. 1753

William Sherard



William Sherard was born in Bushby, Leicestershire, England in 1659 and died in 1728 in London. He studied from 1677 to 1683 at St John's College, Oxford, graduating with a bachelor's degree in common law. At Oxford he became interested in botany, partly due to his friendship with fellow student Jacob Bobart the Younger. Next, William travelled to Europe, where from 1686 to 1689 he studied botany under Tournefort in Paris and Hermann in Leiden, Holland. During this time he collected plants locally, as well as in Switzerland and Italy. From 1690 to 1702 William worked as tutor and traveling companion for several young English noblemen, this allowed him to visit some of the most important European gardens and meet many prominent botanists. In 1694 he became doctor of common law at St. John's College. From 1703 to 1716 he was consul at Smyrna (Izmir, Turkey), where he collected plants and established a garden. Sherard returned in 1717 with a considerable fortune and lived the rest of his life in London, sporadically visiting the continent and the botanists he had met.

Although recognized as one of the most prominent botanists of his time, Sherard published little. He is considered the author of *Schola Botanica*, an almost



400-page catalog of plants published in 1589 in Amsterdam; the author's initials S. W. A. corresponding Sherard William Author. Sherard's main contributions to botany are his herbarium of almost 14,000 specimens, considered second in importance only to that of Linnaeus, his large botanical library with many rare books, and his role as collaborator and patron of many botanists.

Sherard undertook early in his career a revision of Caspar Bauhin's *Pinax Theatri Botanici*, a massive project that he never completed, instead he brought Johann Jacob Dillenius to England to work on it, and later bequeathed the funds for a Sherardian chair of botany (still extant) which Dillenius was first to occupy. William contributed a substantial list of plants he had collected to John Ray's *Sylloge Stirpium Europaerum* (1694). He also coedited and published Hermann's *Paradisus Batavus* (1698), following the author's death three years earlier. Sherard contributed to Boerhave's acquisition of Sébastien Vaillant's manuscripts and to the revision of the latter's posthumous *Botanicon Parisiense*. He also provided information and money to Mark Catesby for the latter's *Natural History of Carolina, Florida and the Bahama Islands* (1729-1747).

While in in Izmir, Sherard sent seeds to his brother, botanist James Sherard, who had a large garden at Eltham in Kent. The rare plants of this garden were the subject of Dillenius' *Hortus Elthamensis*, to which Sherard made a substantial taxonomic contribution.

Rudolf Jakob Camerarius



Rudolf Jakob Camerarius was born in Tübingen, Germany in 1665 and died there in 1721. His father was Elias Rudolph Camerarius (1641-1695), physician and professor of medicine at the University of Tübingen. Rudolf Jakob obtained his bachelor's (1679) and master's (1682) degrees at this institution and from 1685 to 1687 travelled throughout Europe. Back in Tübingen he finished the doctorate in 1687 (his father was the thesis advisor), and in 1688 was appointed extraordinary professor of medicine and director of the botanical garden. After his father's death, Rudolph Jacob succeeded him as full professor.

Camerarius authored some thirty publications on botany, two of them more important than the others. The second is titled *De convenientia plantarum in-fructificatione et viribus* (1699), and in it he showed that plants with similar flowers have similar medical qualities and thus similar substances; this notion was discussed by Linnaeus and confirmed by modern researchers using chemotaxonomic methods. The first publication was originally an 80-page letter, titled *De sexu plantarum epistola*, that Camerarius sent in 1694 to Michael Bernhard Valentini, professor of medicine at the University of Giessen, and which immediately generated much interest. In this

ACADEMIÆ
CÆSAREO LEOPOLD.
N.C. HECTORIS II.
Rudolphi Jacobi Camerarii,
Professoris Tübingensis,
AD
THESSALUM,
D. Mich. Bernardum Valentini,
Professorem Giessensem
Excellentissimum,
DE
SEXU PLANTARUM
Epistola.
TÜBINGÆ,
Typis Vidua Rommelt,
A. MDC XCIV.

work, Camerarius first reviews the historical and prevailing knowledge about plant reproduction, next he describes the structures of the flower in various groups of plants, and finally discusses his experiments in reproduction, which strongly suggested that plants were sexual creatures like animals. Camerarius showed, for example, that both corn and castor oil plants devoid of male flowers (right, bottom)

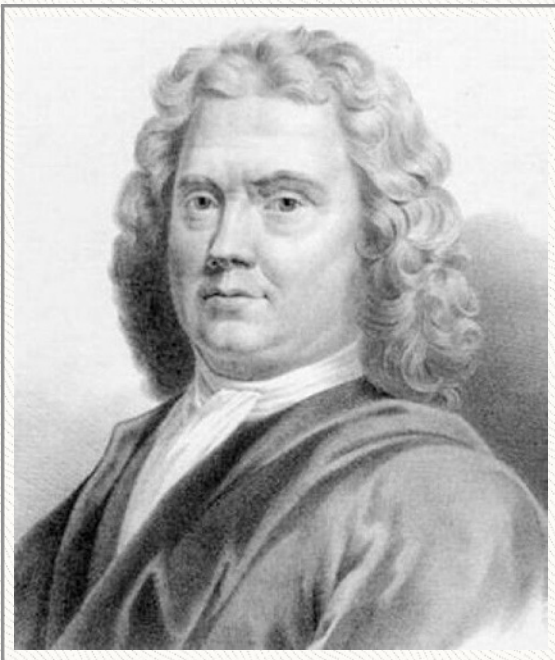


failed to produce seeds, concluding from these and other experiments that pollen must be transferred from the anthers to the flower's stigma in order for seeds to be produced.

While Andrea Cesalpino, Marcello Malpighi, John Ray and Nehemiah Grew had debated the possibility of plant sexuality, Camerarius' experiments provided the first proof. Hybridization experiments published in 1761 by Joseph Gottlieb Kölreuter confirmed Camerarius' conclusions, and thousands of hybridization experiments conducted by Karl Friedrich von Gaertner (1844, 1849) eliminated the last foci of resistance to plant sexuality. Camerarius' work, as well as Vaillant's famous lecture on this subject, paved the way for Linnaeus sexual classification method, which due to the issue of plant sexuality also confronted resistance.

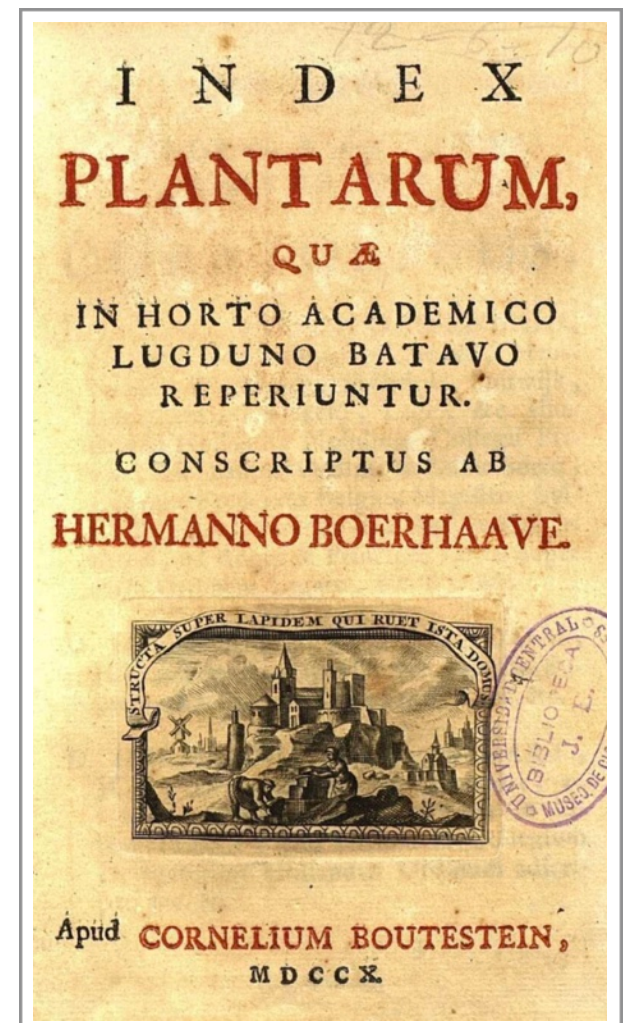
BOERHAVIA L. 1753

Herman Boerhave



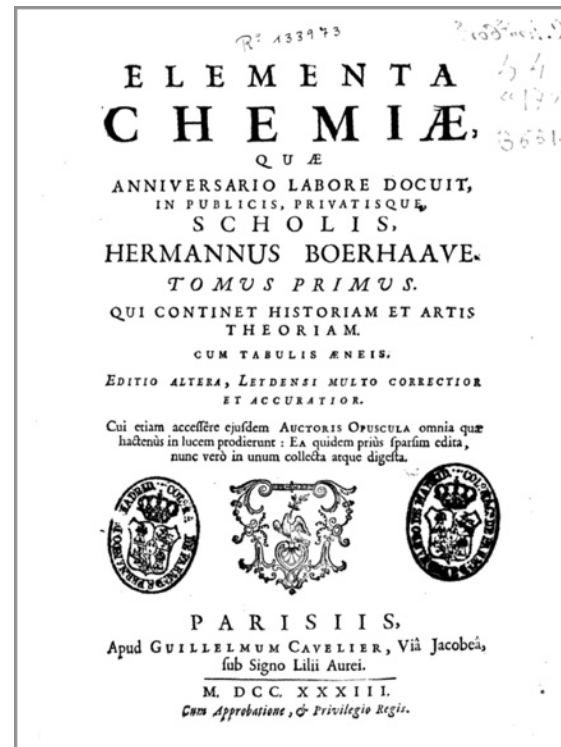
Herman Boerhave was born in 1668 in Voorhout, Holland and died in 1738 in Leiden. Being the son of a preacher, his initial intention was to study divinity. Following his father's death in 1683, Herman entered the University of Leiden in 1684 and five years later obtained a degree in philosophy. After graduating he began studying medicine, which at the time required considerable knowledge of botany, and in 1693 became a physician at Harderwijk (where Linnaeus became a physician in 1735). After some years practicing his profession, in 1701 Boerhave was appointed lecturer at Leiden and in 1709 became professor of botany and medicine in substitution of Peter Hotton. In 1718 he became professor of chemistry.

As professor of botany, Boerhave was in charge of the university's botanical garden. He expanded it, introduced many new plants, and in 1710 published a comprehensive list of its species in *Index plantarum, quae in Horto Academico Lugduno Batavo reperiuntur*. His other important contributions to botany resided in helping other botanists (see the essay for Sébastien Vaillant), the most famous of which was Linnaeus, who became Boerhave's close friend during his stay in Leiden. Thanks to the latter's recommendation, Linnaeus became George



Clifford's physician and overseer of his great botanical garden, the plants of which became the subject of *Hortus Cliffortianus* (1737). Boerhave had in his state a garden which rivaled Clifford's.

Boerhave is credited for writing the first modern textbook of chemistry (*Elementa Chemiae*, 1733-1734), he was also the first to isolate urea from human urine. He excelled even more as professor, being credited for establishing the first modern academic hospital and for popularizing the current method of teaching medicine, which includes formal lectures and visits to patients to discuss symptoms, diagnosis and treatment. Boerhave attracted students from throughout Europe and his fame as physician was so great that he's said to have received a letter mailed from the Orient with just his name and Europe written on the envelope. Boerhave wrote two important textbooks on medicine which became popular throughout Europe: *Institutiones medicae* (1708) and *Aphorismi de cognoscendis et curandis morbis* (1709).

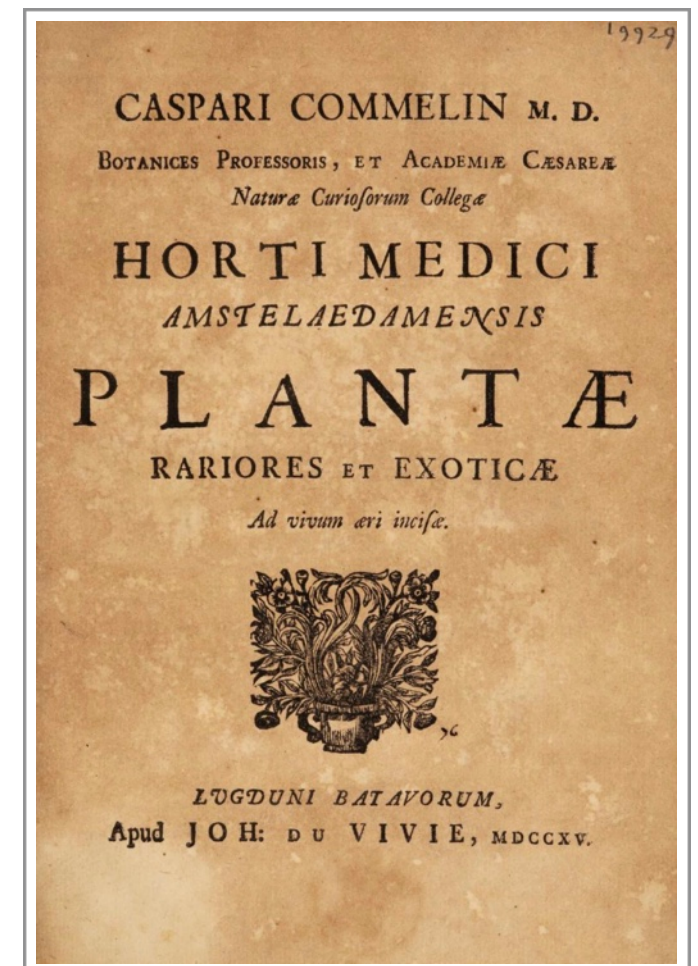


Caspar Commelin



Caspar Commelin was born in 1668 in Amsterdam, Holland, and died there in 1731. His father, also named Caspar, was a printer, publisher and bookseller; he was also brother of botanist Jan Commelin. In 1692, Caspar entered the University of Leiden to study medicine, his botany teacher was Paul Hermann; he graduated in 1694 and returned to Amsterdam to practice as a physician. Two years later he was appointed botanist at the city's Hortus Medicus and in 1706 was made professor. At the Hortus he shared teaching responsibilities with botanist Frederik Ruysch, who taught mostly about the native plants while Jan taught mostly about exotics. In 1711 he was nominated inspector of the Collegium Medicum, a committee that oversaw the practice of medicine and pharmacy in Amsterdam.

Caspar's first significant contribution to botany was *Flora Malabarica sive Horti Malabarici catalogus exhibens* (1696), an index with synonyms for Reede's *Hortus Malabaricus* (a work in which his uncle Jan Commelin invested much time as annotator and editor). This was followed in 1698 by *Horti medici Amstelaedamensis plantarum usualium catalogus*, a catalog of the medicinal plants propagated at the Hortus



Medicus. His third major contribution was published in 1706 and titled *Horti medici Amstelædamensis Plantae Rariores et Exoticae Ad vivum aeri incisae*. Jan participated in other botanical projects and supplied the latin names for the plants included in Maria Sybilla Merian's famous book *Metamorphosis insectorum Surinamensium* (1705).

Caspar and his wife Johanna Helena Gerolt had five sons, only one of which, named Caspar, reached adulthood. Like his father, this Caspar studied medicine at Leiden and practiced it in Amsterdam, but died at the age of 30. *Commelina* was dedicated by Plumier to Jan and Caspar Commelin. Linnaeus added Caspar's son, saying that the flowers have two large petals and a small one, the first two represent Jan and Caspar, the small one represents the third Commelin, who died before publishing on botany.



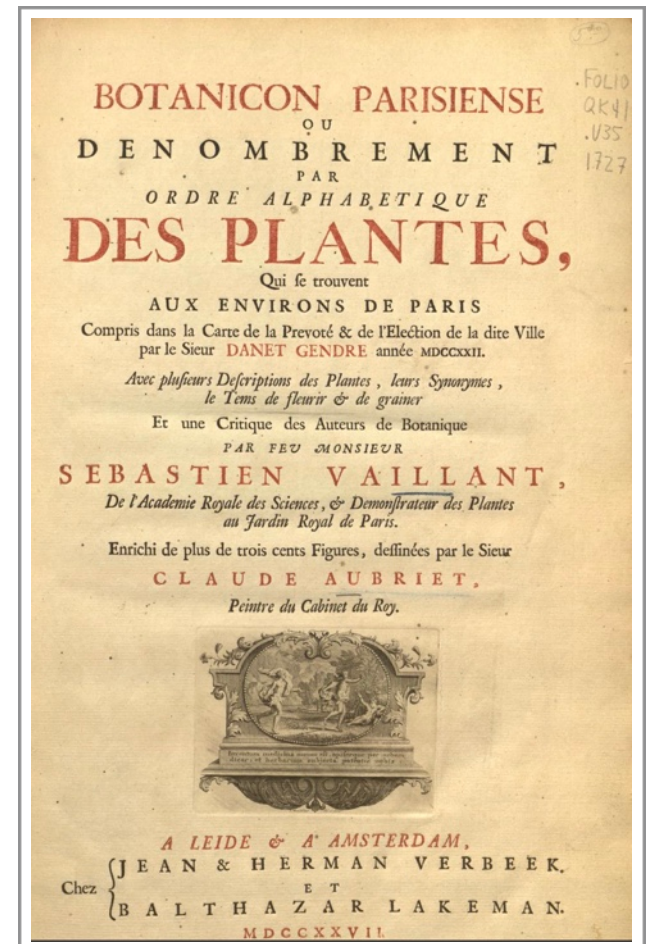
VALANTIA L. 1753

Sébastien Vaillant



Sébastien Vaillant was born in 1669 in the commune of Vigny, Val d'Oise, France and died in 1722 in Paris. He studied medicine at Pontoise and moved to nearby Paris to practice his profession. Sébastien had been interested in plants since childhood, so while in Paris he studied botany under Tournefort at the Jardin du Roi, and assisted botanist Guy Crescent Fagon. By 1702 he had joined the staff of the garden, in 1708 he was named demonstrator, and in 1717 succeeded Antoine de Jussieu as professor of botany. During all these years Vaillant collected plants in the surroundings of Paris and built a massive herbarium, he also helped arrange the garden's plants and pioneered the use of greenhouses.

Vaillant is remembered in botany by a famous lecture and an outstanding publication. The lecture took place on June 10, 1717 at the Jardin du Roi. In it, Vaillant described the sexuality of plants in direct terms, making an analogy between the flower's stamens and pistils, and the human reproductive organs. The anthers were equivalent to the testicles and the style to the Fallopian tubes, through which the "essence" that caused fertilization travelled from the stigma to the ovary. The lecture aroused interest among young listeners and horror among the old ones, not only



because they were not ready to accept the sexuality of plants but also because Vaillant openly criticized the views of Tournefort, who had been his professor and was still the most famous and revered French botanist. It has been suggested that had Vaillant not been elected to the French Academy of Sciences a year earlier, he would not have been elected following this lecture. His views, however, were enthusiastically accepted and further expanded by Linnaeus, who would be subject to similar criticism by his seniors in Sweden and other countries.

Sébastien's outstanding publication was *Botanicon parisiense* (*Botanicon parisiense, ou, Denombrement par ordre alphabetique des plantes, qui se trouvent aux environs de Paris*- preceding page). It was published posthumously in Holland in 1727 thanks to the efforts of William Sherard and Herman Boerhave, who were coeditors. The work was illustrated by celebrated artist Claude Aubriet. This publication is considered the first modern regional flora, to be surpassed in clarity of presentation by Linnaeus' *Flora Lapponica*, published in Holland in 1737. Vaillant had evidently raised the bar for Linnaeus.

Valantia is one of the generic names proposed by Micheli and adopted by Linnaeus.

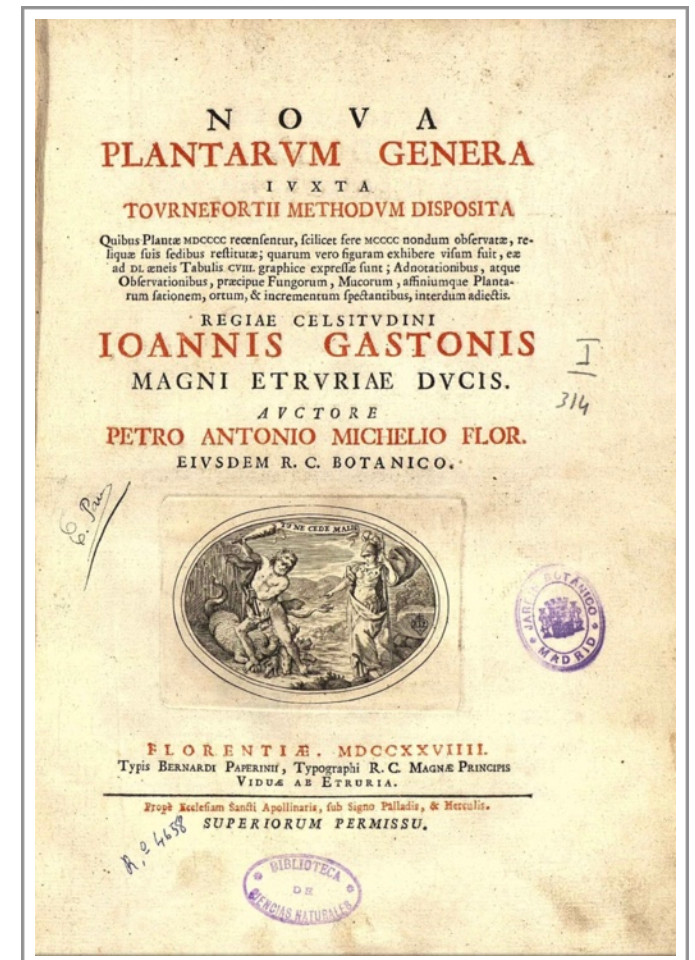
MICHELIA L. 1753



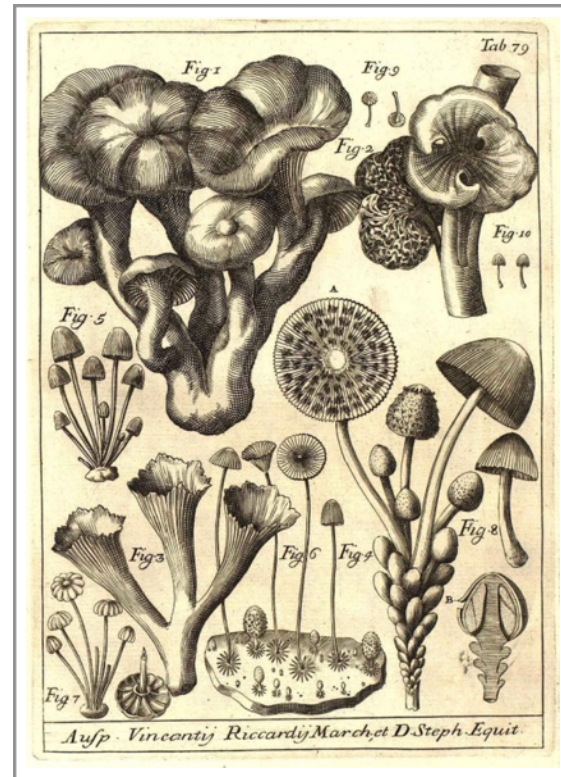
Pier Antonio Micheli

Pier Antonio Micheli was born in Florence, Italy in 1679 and died there in 1737. His family was poor and he was unable to obtain a formal education. For many years he apprenticed to a bookseller, and during this time taught himself Latin. Botany he learned through personal study and from botanist/mycologist Bruno Tozzi. Thanks to the patronage and influence of several aristocrats, including Marquis Cosimo da Castiglione, Micheli was appointed in 1706 botanist to Cosimo III de' Medici, Grand Duke of Tuscany, which meant that in due time he became director of the Florence Botanical Gardens and was able to teach at the University of Pisa. In 1716 he founded the *Società botanica Fiorentina*, possibly the world's first botanical society; among its members were many aristocrats interested in the natural sciences. Micheli also corresponded with many European botanists, including William Sherard, who regarded him as the leading botanist of his day. He also made contributions to marine biology, paleontology and geology. Although Micheli lacked a university degree, it is said that he wore a doctoral gown to his funeral.

Micheli's main contribution to botany was *Nova plantarum genera iuxta Tournefortii methodum*



disposita (1729). This work contains approximately 1900 plants, many described for the first time, arranged according to Tournefort's system. A total of 108 plates complement the text. Some 900 of the plants are lichens and fungi. Through simple, logical experiments, Micheli found that fungi reproduce by spores instead of appearing by spontaneous generation. For his efforts in the study of fungi he is called the founder of scientific mycology.



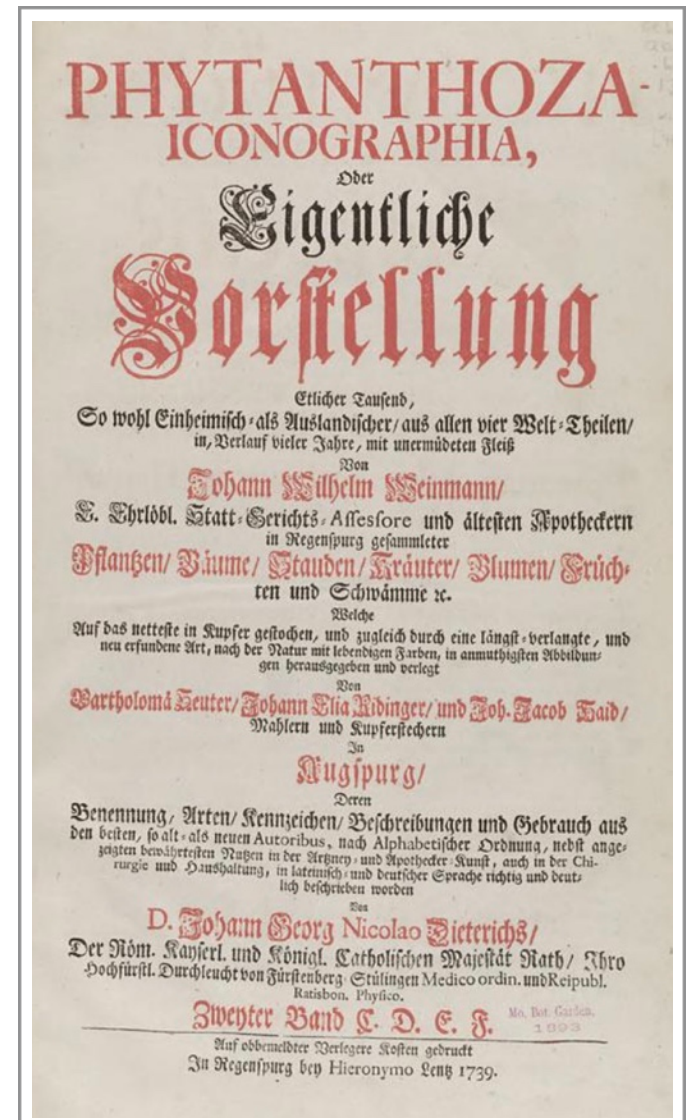
Like Plumier before him, Micheli was keen on dedicating genera to people, especially to his patrons and other botanists. Among the names for patrons are *Bonarota* (Filippo Buonarroti), *Buccaferrea* (Camillo Antonio Buccaferro), *Eugenia* (Prince Eugene of Savoy) and *Riccia* (Pietro Francesco Ricci). Among the names for botanists are *Montia* (Giuseppe Monti), *Tozzia* (the aforementioned Bruno Tozzi), *Valantia* (Sébastien Vaillant) and *Vallisneria* (Antonio Vallisneri). As mentioned in Plumier's essay, Linnaeus favored the practice of dedicating genera to people who had contributed to science, particularly botanists... *Michelia* is one of them.

Johann Wilhelm Weinmann



Johann Wilhelm Weinmann was born in Gardelegen, Germany in 1683 and died there in 1741. He settled in Regensburg and began working as an assistant apothecary (pharmacist). By 1712 he had his own apothecary shop. His first wife was daughter of an affluent wine merchant, so Johann may have received a considerable dowry. She died and he remarried the daughter of a town official. His business prospered to the point that he had the time and resources to seriously pursue an interest in medicinal plants, pharmacy and botany. He established a botanical garden in Regensburg and published *Catalogus alphabetico ordine exhibens pharmaca tam simplicia...* (1723), a hundred-page catalog of pharmaceutical plants and remedies.

Weinmann's important contribution to botany was the four-volume *Phytanthoza iconographia...*, which he did not write but rather coordinated and produced, most likely at very high personal cost. The volumes were published in 1737, 1739, 1742 and 1745 (the last two after Weinmann's death). They contain over 1700 pages of text about plants and 1025 color plates illustrating them. The text was written by Johann Georg



The main contribution of *Phytanthoza* was that it raised the bar for future botanical works, particularly in the accuracy with which the plants should be presented. This apparently caused in Linnaeus an impression favorable enough to dedicate *Weinmannia* to him.

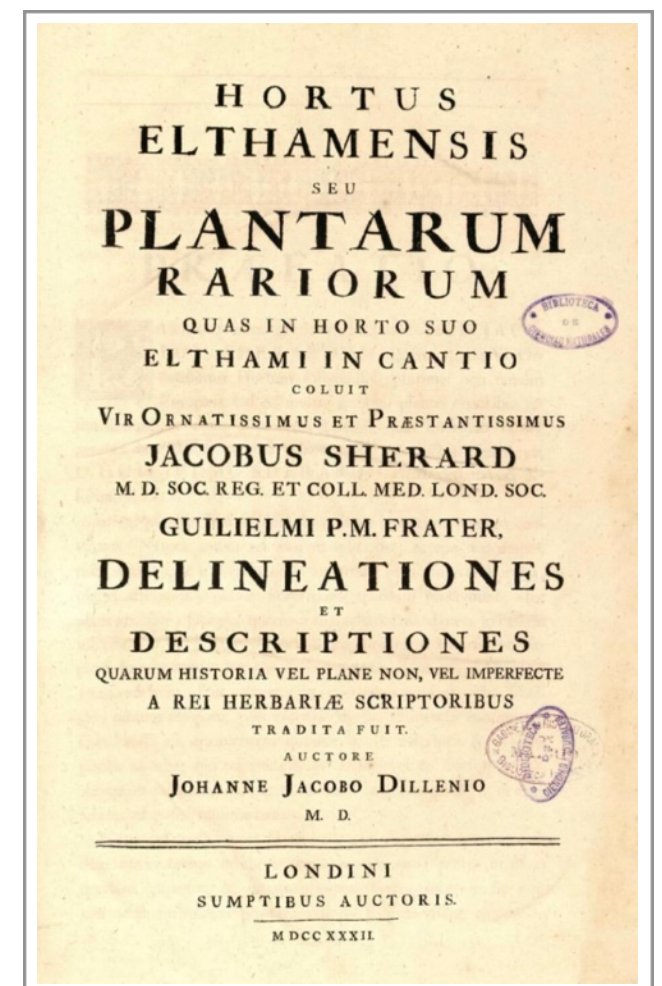


DILLENIA L. 1753



Johann Jacob Dillenius

Johann Jacob Dillenius was born in Darmstadt, Germany in 1684 and died in 1747 in Oxford, England. His father was professor of medicine at the University of Giessen and Johann Jacob studied there, becoming a physician in 1713. During his student years Dillenius developed an interest in plants, particularly cryptogams, and collected extensively in the surroundings of Giessen; this led to the publication in 1719 of *Catalogus plantarum sponte circa Gissam nascentium*. The publication includes 980 species of flowering plants, 200 of mosses and 160 of fungi; many of the cryptogams were new. Impressed by this work, English botanist William Sherard invited Dillenius to move to England, where he arrived in 1721 to work with, among other projects, Sherard's massive collection of plants. Sherard left funds in his will to endow a chair of botany at Oxford on the condition that Dillenius would be the first to occupy it, which he did in 1734. In 1735 he obtained the degree of Doctor of Physic (Medicine) and a year later received the visit of a young Linnaeus, whom he befriended and with whom he corresponded the rest of his life. Linnaeus dedicated to Dillenius his *Critica Botanica* (1737) and the genus *Dillenia*, about which he said that the plant has beautiful flowers

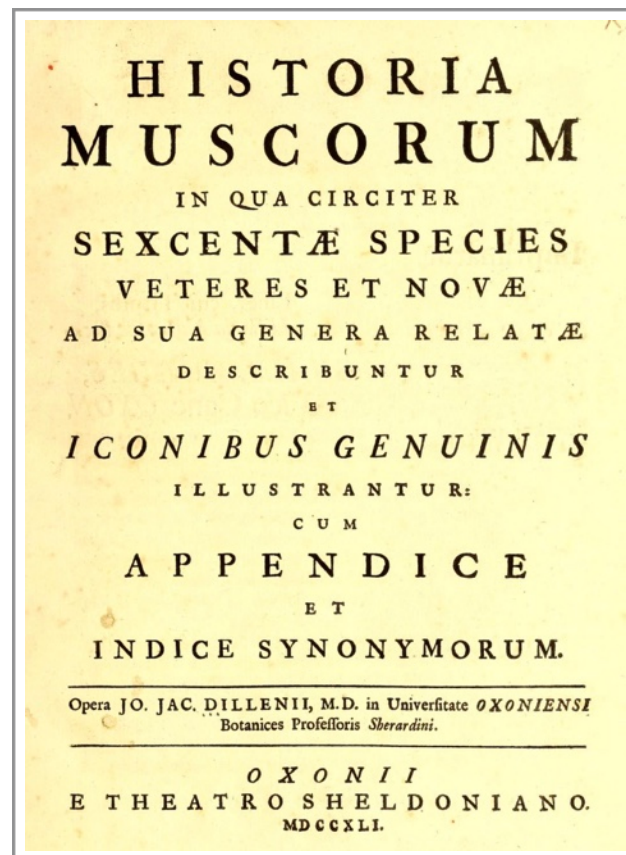


and fruits, like the work of Dillenius among botanists.

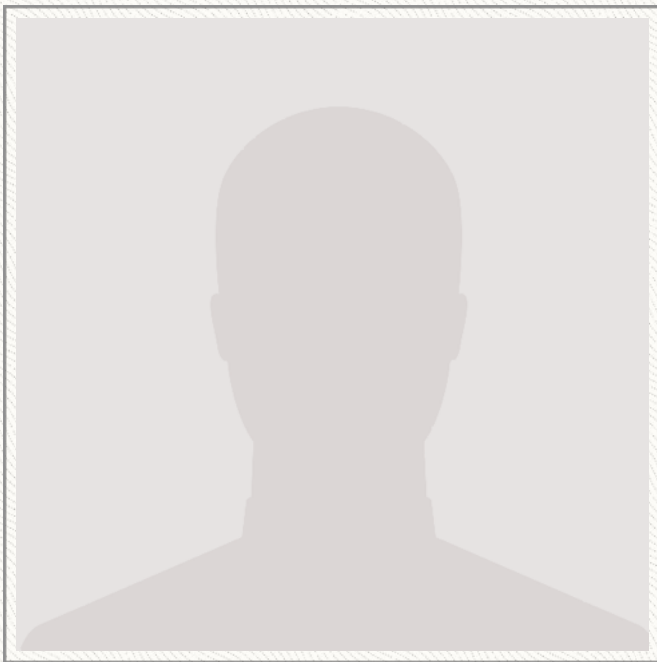
One of Dillenius' first contributions in England was as editor of the third edition of John Ray's *Synopsis Methodica Stirpium Britannicarum* (1724), whose classification system he preferred. This work remained the standard botanical reference in England until the publication of Linnaeus' *Species Plantarum* in 1753.

Dillenius' next next major contribution was *Hortus Elthamensis...* (1732), a study of the plants growing at Eltham in the garden of John Sherard, apothecary, gardener and younger brother of the William Sherard. This work is over 200 pages long and is illustrated by 166 original plates; Linnaeus held it in very high regard.

Dillenius' last and most important publication was *Historia muscorum...* (1741), a work containing all the known species of mosses and liverworts, as well as other lower plants, and illustrated by 85 plates with over a thousand original illustrations.

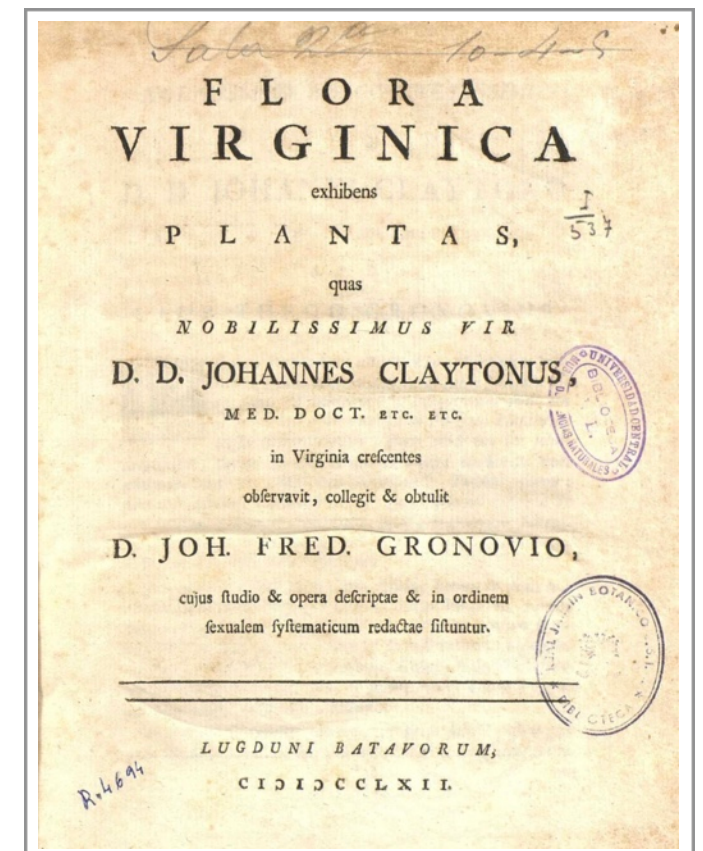


Johan Frederik Gronovius



Johan (Jan) Frederik Gronovius, known also as Gronovius the Younger, was born in Leiden, Holland in 1686 and died there in 1762. He should not be confused with his grandfather, Gronovius the Elder, Johann Friedrich Gronovius (1611-1671), a German classical scholar, professor of Greek and librarian at Leiden University. Little biographical information about Johan Frederik's life is available, at least online; we do know that he was a lawyer, senator and botanist... such diversity of interests was not uncommon in the 18th century.

Gronovius' main contributions to botany were two important publications and his role as patron of Linnaeus. His best known work is *Flora Virginica*, published in 1739; a second part appeared in 1742, and a second edition in 1762. The publication was based on plants collected in Virginia during the 1730s by botanist John Clayton and sent to Gronovius either directly or through botanist Mark Catesby. Although the cover acknowledges Clayton's role as the plant collector, and the work is dedicated to him, permission was apparently not procured or deemed necessary in order to describe the material, a situation which lead to misunderstandings, since apparently Clayton intended to described the plants

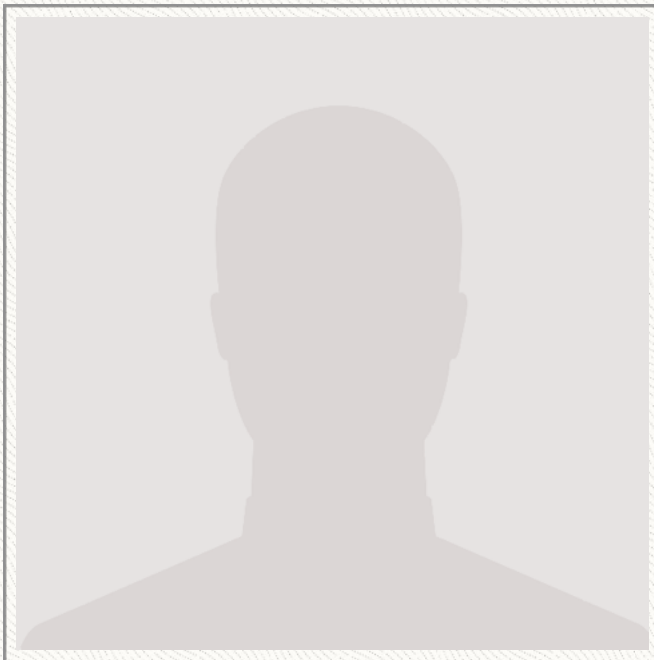


himself. Gronovius' second important publication is titled *Flora Orientalis...* and was published in 1755. He also published an index to the rock "kingdom" (*Index supellectilis lapideae...* 1750), dedicating it to Linnaeus. At that time, the three great divisions of natural history were animals, plants and rocks.

Gronovius met Linnaeus during the latter's stay in Leiden and recruited him to help study the material collected by Clayton. He was so impressed with Linnaeus' novel "sexual method" of classification that he used it in *Flora Virginica* and *Flora Orientalis*. He also urged Linnaeus to publish the first edition of *Systema Naturae* (1735) and, since Linnaeus had no funds, Gronovius and Isaac Lawson had it published at their personal expense.

According to Linnaeus, Gronovius dedicated *Linnaea* to him, although there's evidence that Linnaeus had the name in mind many years before meeting Gronovius, and *Linnaea* does not appear in any of Gronovius' publications. Some sources (e.g., the Tropicos database) credit the name to Linnaeus, while others (e.g., the International Plants Name Index database) credit it to Gronovius.

About *Gronovia*, Linnaeus indicates that this climbing and grasping plant is named after a man who had few equals as a plant collector.



Philip Miller was born near London, England in 1691 and died there in 1771. His father was a nurseryman and Philip followed in his footsteps. While young he travelled throughout England and sailed to Flanders and Holland to compare horticultural, gardening and agricultural methods. Back in London he established a nursery and worked there until 1722, when he was appointed Head gardener at the Chelsea Physic Garden. Philip occupied this position until shortly before his death, and during almost five decades transformed the garden from one dedicated to the production of herbs for apothecaries into what some considered the best botanical garden in Europe. Through his wide network of contacts, Miller obtained plants and seeds from around the world, succeeded in raising and reproducing them, and shared them with botanists and other gardens. Linnaeus visited the Chelsea garden in 1736 and befriended Miller.

Miller's greatest contribution to botany was *The Gardener's Dictionary...*, first published in 1731. It went through eight editions, growing in length and breadth until the last one in 1768. The final edition is the only one that used Linnaeus'

THE
Gardeners Dictionary.
Containing the METHODS of
CULTIVATING and IMPROVING
ALL SORTS OF
TREES, PLANTS, and FLOWERS,
FOR THE
Kitchen, Fruit, and Pleasure Gardens;
AS ALSO
Those which are used in MEDICINE.
WITH
DIRECTIONS for the Culture of VINEYARDS,
and Making of WINE in England.
In which likewise are included
The PRACTICAL PARTS of HUSBANDRY.
Abridged from the last Folio Edition,
By the AUTHOR, *PHILIP MILLER*, F.R.S.
Member of the Botanic Academy at Florence, and Gardener to the Worshipful
Company of APOTHECARIES, at their Botanic Garden, at Chelsea.
— *Digna manet divini gloria ruris.* Virg. Geor.
In THREE VOLUMES.
VOL. I.
The FOURTH EDITION, Corrected and Enlarged.
LONDON:
Printed for the AUTHOR;
And Sold by JOHN and JAMES RIVINGTON, at the *Bill*
and *Crown*, in *St. Paul's Church-Yard*.
M.DCC.LIV.
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classification, while the three-volume 1754 edition is significant because generic names credited to him use this date. Miller's use of names not adopted by Linnaeus led to him being credited for the authorship of many generic names; a search in the Tropicos database produces 332, some of the best known being *Abies*, *Acacia*, *Ceiba*, *Inga*, *Luffa*, *Manihot*, *Pereskia*, *Persea*, *Senna*, *Serjania*, *Vanilla* and *Zingiber*. Linnaeus was very impressed by the *Gardener's Dictionary* and called it not a dictionary for gardeners, but one for botanists.



A two-volume book complementary to the dictionary appeared in 1760 under the title *Figures of the most Beautiful, Useful, and Uncommon plants described in the Gardener's dictionary...* (one figure is reproduced above). It includes illustrations by his brother-in-law George Ehret and is today treasured by collectors, with well-preserved copies selling for upwards of \$20 thousand dollars.

About *Milleria*, Linnaeus remarked that this plant was named after a man who labored hard acquiring rare American plants, preserving them and sharing them with others.

TREVI A L. 1753

Christoph Jacob Trew



Christoph Jacob Trew was born in Lauf an der Pegnitz, Germany in 1695 and died in 1769 in Nuremberg. He studied medicine at Altdorf bei Nürnberg and after graduating travelled in Europe during three years. By 1721 he had returned and settled in Nuremberg, where he practiced medicine, conducted research and lectured at the university. In 1727 he became member of the prestigious Leopoldina (German Academy of Sciences) and in 1746 joined the Royal Society of London.

Trew's contributions to botany are of a double nature. As a journalist, he founded in 1731 *Commercium litterarium ad rei medicinae et scientiae naturalis*, one of the first medical journals, thus contributing to the popularity of such publications as outlets for the results of scientific research. In 1743 he founded the journal Leopoldina. As a consequence of his work with both journals, Trew developed an extensive network of contacts through which he amassed a formidable library of some 34 thousand volumes which are today at University of Erlangen.

As a botanist, Trew is best known for *Hortus nitidissimus...* a collection plant illustrations, mostly beautiful flowers with horticultural



value, made for him by several artists, including George Ehret, who illustrated part of Weinmann's *Phytanthoza iconographia* and Linnaeus' *Hortus Chiffortianus*. The collection was published from 1760 to 1786 by artist and engraver Johann Michael Seligmann, but since Trew figures most prominently on the cover, he is generally treated as the author. Each of the 188 hand-colored copperplate illustrations is reproduced close to life size and is accompanied by descriptive text and other information. In 1750 Trew published a beautiful collection of 100 color illustrations by Ehret under the title *Plantae selectae...*, each one also accompanied with descriptive information.



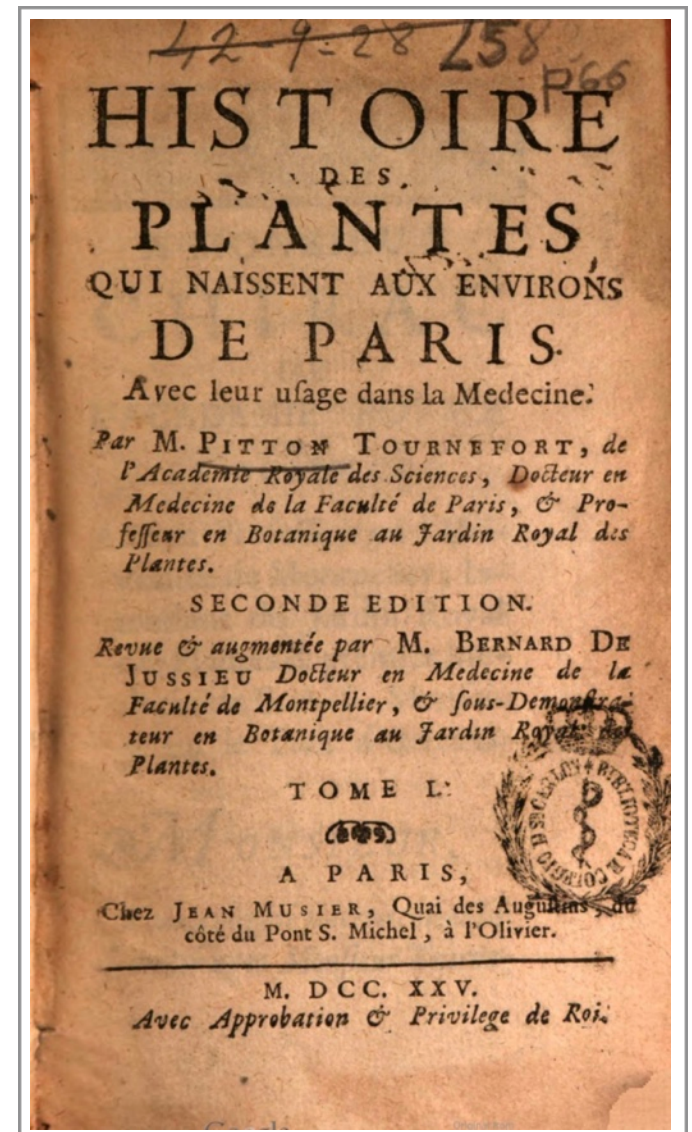
JUSSIAEA L. 1753

Bernard de Jussieu



Bernard de Jussieu was born in Lyon, France in 1699 and died in 1777 in Paris. He studied at the city's Jesuit College. In 1716 he travelled in Spain, Portugal and southern France with older brother and botanist Antoine de Jussieu, developing during this time a keen interest in botany. Following the trip he enrolled in the University of Montpellier to study medicine and graduated in 1720. After two years of private practice he accepted his brother's invitation to move to Paris and assumed the position of sub-demonstrator of plants at the Jardin du Roi, in substitution of Sébastien Vaillant, who had been named professor. Bernard became professor upon Vaillant's death in 1722.

Jussieu supervised the garden and conducted field courses, becoming in short order an excellent teacher. Some of the botanists inspired by his courses and knowledge were Michel Adanson, Jean Étienne Guettard, Pierre Poivre, Henri Louis Duhamel du Monceau, Louis Guillaume Le Monnier, André Thouin, and his nephew Antoine-Laurent de Jussieu. Linnaeus met Bernard during his visit to Paris in 1738.



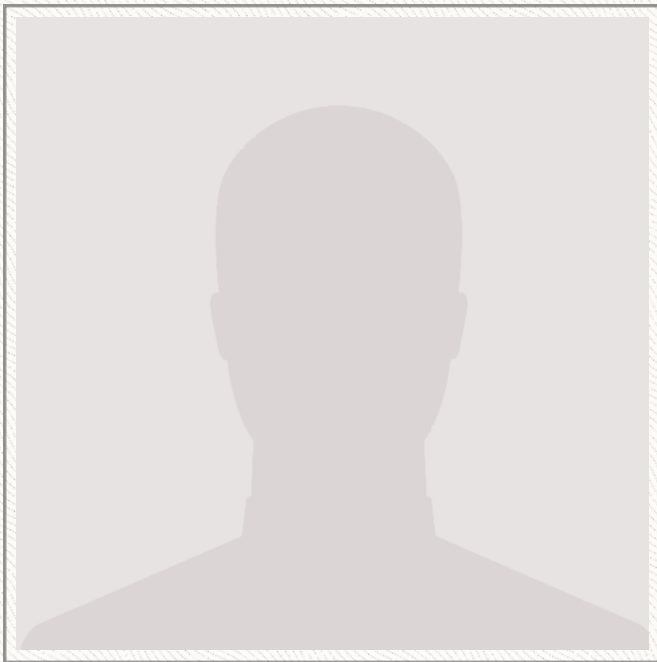
In 1759 the king asked Jussieu to develop a botanical garden in the environs of the Petit Trianon chateau at Versailles; Bernard arranged the plants according to a natural classification that he had developed using a variety of characters. He did not publish the classification, but his nephew Antoine Laurent built upon it in his *Genera Plantarum Secundum Ordines Naturales Disposita...* (1789).

Bernard shared freely his knowledge and did not care much about who received the credit, it has been said he “was deterred by excess of modesty from giving his ideas to the world”. Jussieu’s only botanical publication was a second revised and expanded two-tome edition of Tournefort’s *Histoire des plantes qui nascent aux environs de Paris* (1725). In 1778, a year after his death, a 100-page humanist essay was published, titled *L’ami de la humanité ou conseils d’un bon citoyen a sa nation* (The friend of humanity or advice from a good citizen to his nation). It was signed M. (Monsieur) J.

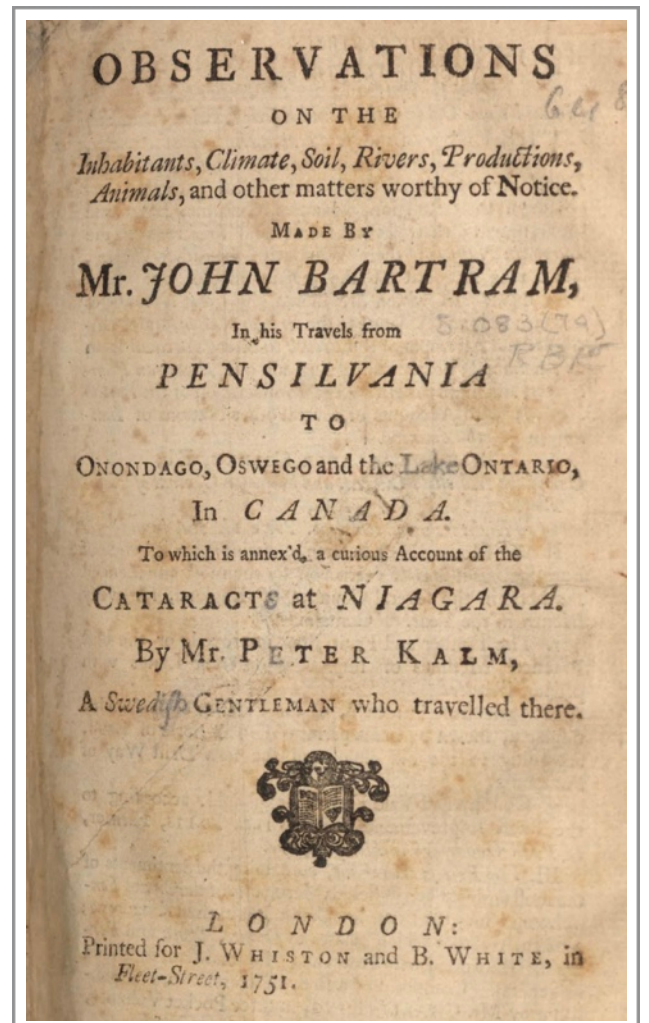
Jussieua was erected by Linnaeus for the three Jussieu brothers: Bernard, Antoine (1686-1758, already mentioned) and Joseph de Jussieu (1704-1779, botanist and explorer who spent half his life in South America).

BARTRAMIA L. 1753

John Bartram



John Bartram was born in Darby, Pennsylvania in 1699 and died in 1777 in Philadelphia. John was born in a farm and his only formal education took place in the local rural school. At approximately 12 years of age he developed a life-long interest in natural history and botany, reading widely on both topics. As a young adult, Bartram inherited a farm and settled with his family. The farm prospered, he sold it and bought a larger one which developed into a productive enterprise. Although most of the farm was devoted to agriculture, by 1730 Bartram had established a large garden to cultivate shrubs, trees and other plants from different parts of America. As his main interest gradually shifted to these other plants, scholar and statesman James Logan provided encouragement, loans and books. Around 1734 John was introduced to English gardener, botanist and merchant Peter Collinson, who over the coming decades would regularly order from Bartram seeds and living plants for distribution to collectors, gardens and botanists, mostly in England. Among his many customers were Philip Miller and the Chelsea Physic Garden. Bartram's desire to expand his new business and further explore natural history led to many expeditions and collecting trips during the



next 30 years to a wide variety of unexplored natural habitats, mainly in Eastern North America, ranging from Canada to Florida. These trips led to the discovery of new plant species and to the introduction into horticulture of many others. The most famous among the latter is the Franklin tree (*Franklinia alatamaha*- right), today extinct in nature, so that all known specimens descend from the ones Bartram collected and planted in his garden near Philadelphia, considered by some the first botanical garden in North America. Among those who accompanied John in his many explorations and collecting trips were his son William Bartram, noted naturalist, botanist and ornithologist, and Peter Kalm, one of Linnaeus' students and apostles.



Not being a scholar, Bartram wrote very little. The journal of one of his many trips was published in 1751 in London under the title *Observations on the inhabitants, climate, soil, rivers, productions, animals, and other matters worthy of notice made by Mr. John Bartram in his travels...* (preceding page). His contribution to botany lies in his collecting trips and the introduction to Europe of many plants, followed by their descriptions. Linnaeus held him in very high regard.

HAMELIA JACQ. 1760

Henri Louis Duhamel du Monceau



Henri Louis Duhamel du Monceau was born in Paris, France in 1700 and died there in 1782. His education began at College d'Harcourt, and during this time he became interested in botany; however, yielding to his father's wishes he studied law at Orléans, graduating in 1721. Next he went to the Jardin du Roi to study botany and became friends with Bernard de Jussieu, who at the time was demonstrator of botany but would soon become professor. During this time Henri inherited his father's estate and expanded the farm, converting part of it into an experimental station where he investigated methods of agriculture, horticulture and forestry. In 1728 Jussieu suggested that, under the auspices of the French Academy of Sciences, Henri should study the disease affecting saffron crocus cultivation in north-central France. Duhamel found that a fungus was responsible for the disease and published the results; this discovery plus his other contributions to the study of plants granted him admission to the French Academy of Sciences in 1738, he would subsequently preside it three times.

In 1731 Henri began working for the government, particularly for the Navy. He experimented on the qualities of wood used for

TRAITÉ DES ARBRES FRUITIERS;

CONTENANT

LEUR FIGURE, LEUR DESCRIPTION,
LEUR CULTURE, &c.

Par M. DUHAMEL DU MONCEAU, de l'Académie Royale des
Sciences; de la Société Royale de Londres; des Académies de Petersbourg,
de Palerme, & de l'Institut de Bologne; Honoraire de la Société d'Edim-
bourg, & de l'Académie de Marine; Associé à plusieurs Sociétés d'Agricul-
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AVEC APPROBATION ET PRIVILEGE DU ROI.

shipbuilding, leading to the publication of the two-part *La physique des arbres* (1758), a comprehensive treatise on plant anatomy with emphasis on wood production and use. This was part of an eight-volume work titled *Traité complet des Bois et des Forêts* (Complete treatise on woods and forests) of which *Traité des Arbres et Arbustes* (1755), *De l'Exploitation des Bois* (1764) and *Du Transport* (1767) were also part.

Duhamel is better known for the two-volume *Traité des arbres fruitiers* (1768- preceding page and right), an in-depth study of over 600 pages on fruit-tree cultivation, illustrated with many plates by Claude Aubriet and Madeleine Françoise Basseporte. Agronomer René Le Berryais is said to have contributed substantially to this work, which was inspired by a previous one by Duhamel on his favorite fruit, the pear: *Anatomie de la poire* (1730-1732).



252 BOTANISTS



NOTES

- These are botanists to whom one or more plant generic names were dedicated during 1753 to 1853.
- For a very long time most physicians were also botanists, since many remedies were prepared from plant extracts.
- Frequently it was not easy to distinguish between naturalist, apothecary, gardener, botanist and plant collector.
- Only people called botanist in *Plant genera named after people (1753-1853)* are included in this section. The actual number of people working with plants was much higher.
- Mary Somerset is the only woman in the group.

Nikolaus **Ager** (1568-1634), French physician and botanist, professor at Strasbourg, author of *De Anima Vegetativa* (1629).

Tobia **Aldini**, pseudonym of Pietro Castelli (c.1570-1661), Italian physician, botanist and illustrator, director of Cardinal Farnese's gardens and author of *Hortus Farnesianus* (1625).

Prospero **Alpini** (1553-1617), Italian physician and botanist, professor at Padua and director of the botanical garden, author of *De Plantis Aegypti liber* (1592).

Charles **Alston** (1683-1760), Scottish physician and botanist, professor at Edinburgh and director of the botanical garden, author of *Tirocinium botanicum Edinburgense* (1753).

Bartholomeo **Ambrosini** (1588-1657), Italian physician and botanist, professor at Bologna and director of the botanical garden.

Paul **Ammann** (1634-1691), German physician and botanist, professor at Leipzig and director of the botanical garden, author of *Supellex botanica...* (1675) and coauthor of *Character naturalis plantarum...* (1676).

Luigi **Anguillara** (1512-1570), Italian physician, botanist and plant collector, professor at Padua and prefect of the botanical garden.

Benedictus **Aretius** (c.1505-1574), Swiss astronomer, geographer and botanist, professor at Marburg and Bern.

Francisco **Arjona**, 18th century Spanish pharmacist and botanist, professor at Cadiz.

Claude **Aubriet** (c.1665-1742), French botanist and illustrator at the Jardin du Roi, accompanied Tournefort in his voyage to the Middle East.

John **Banister** (1650-1692), English naturalist and botanist, nature collector in Virginia.

Jacques **Barrelier** (1606-1673), French physician, botanist and plant collector in Europe, established a botanical garden at a convent in Rome, the many illustrations he made in his travels were published by Antoine de Jussieu in *Plantae per Galliam, Hispaniam et Italiam observata...* (1714).

Thomas **Bartholin** (1616-1680), Danish astronomer, mathematician, physician and botanist, professor at Copenhagen.

Toma **Belluci** (1641-1672), Italian botanist, professor at Pisa and prefect of the botanical garden.

Jacob Frederic **Below** (1669-1716), Swedish-Russian physician and botanist.

Giuseppe **Benincasa** (1500-1595), Flemish-Italian gardener and botanist, director of botanical gardens in Florence and Pisa.

Pierre **Bérard** (c.1580-c.1664), French pharmacist and botanist in Grenoble.

Karl August von **Bergen** (1704-1759), German physician, naturalist and botanist, professor at Frankfurt/Oder, author of *Flora Francofurtana* (1750).

Basilus **Besler** (1561-1629), German pharmacist and botanist, produced *Hortus Eystettensis* (1613) based on the botanical garden of Johann Konrad von Gemmingen, prince bishop of Eichstätt (Bavaria).

András **Beythe** (1564-1599), Hungarian botanist, author a herbal book published in Hungarian in 1595.

John **Blackburne** (1694-1786), English merchant, horticulturist and botanist.

Patrick **Blair** (1666-1728), Scottish surgeon, anatomist and botanist, author of *Botanick Essays* (1720) and *Pharmacobotanologia* (1728).

Blasio **Biagi** (c.1670-1735), Italian clergyman and botanist. *Blasia* L. 1753.

Jacob **Bobart** the Elder (1599-c.1680), German-English botanist, in 1642 became the first director of the Oxford Physic Garden, author of *Catalogus plantarum horti medici Oxoniensis...* (1648).

Jacob **Bobart** the Younger (1641-1719), English botanist, director of the Oxford Physic Garden in succession to his father, lectured at Oxford.

Simon **Boulduc** (1652-1729), French chemist, pharmacist and botanist, professor at the Jardin du Roi, director of the Apothecary Garden.

Francesco **Bonafede** (1474-1558), Italian botanist, professor at Venice and at Padua (where he founded the botanical garden).

Charles **Bouvard** (1572-1658), French physician, chemist and botanist, superintendent of the Jardin du Roi.

Richard **Bradley** (1688-1732), English horticulturist, naturalist and botanist, professor at Cambridge, author of *The history of succulent plants...* (1716) and the two-volume *Dictionarium botanicum...* (1728).

Antonio Musa **Brassavola** (1500-1555), Italian physician and botanist, professor at Ferrara.

Samuel **Brewer** (1670-1743), English gardener, botanist and nature collector, head gardener to the Duke of Beaufort at Badminton.

Jacob **Breyne** (1637-1697), German merchant, naturalist and botanist, author of *Exoticarum plantarum centuria prima* (1678).

Johann Philipp **Breyne** (1680-1764), physician, naturalist and botanist.

Olof **Bromelius** (1639-1705), Swedish physician and botanist.

Adam **Buddle** (c.1660-1715), English botanist and plant collector, credited with creating Britain's first herbarium, author of an unpublished English flora (1708).

Johann Nikolaus **Buek** the Elder (1736-1812), German commercial horticulturist and botanist in Hamburg.

Johannes Antonius **Bumaldus** (1601-1671), Italian physician and botanist, professor at Bologna, author of *Bibliotheca botanica...* (1657).

Joachim **Burser** (1583-1639), German-Danish physician, botanist and plant collector in Europe, professor at Sarøe, Seeland (Denmark), author of *Hortus Siccus* (a 25-volume book-like herbarium kept in Uppsala University).

Ogier Ghislain de **Busbecq** (1522-1592), Flemish diplomat, writer, botanist and plant collector, introduced tulips to the Low Countries.

Johann Christian **Buxbaum** (1693-1730), German physician, botanist and plant collector, professor at St. Petersburg and director of the hortus medicus.

Matteo **Caccini** (1573-1640), Italian aristocrat and botanist, developed a large garden behind the Palazzo Caccini in Florence.

Jean Louis **Calandrini** (1703-1758), Swiss astronomer, mathematician, physicist and botanist, professor at Geneva.

Juan **Calbo** (c.1535-1599), Spanish physician and botanist, professor at Valencia, author of *Cirugía universal y particular del cuerpo humano* (1590).

Georgius Josephus **Camellus** (1661-1706), Moravian missionary, pharmacist, botanist and nature collector in the Mariana Islands and the Philippines (died there), his account of Luzon plants was included in Ray's third volume of *Historia plantarum* (1704).

James **Cargill** (c.1565-1616), English physician and botanist, pupil of Caspar Bauhin.

Pietro **Castelli** (1574-1662), Italian physician and botanist, professor at Messina and founder of the botanical garden, author of *Hortus Messanensis* (1640).

Olof **Celsius** (1670-1756), Swedish philologist, botanist and plant collector, professor at Uppsala, discoverer and first patron of Linnaeus there, author of the five-tome book-like herbarium *Flora Uplandica* (1730).

Federico **Cesi** (1585-1630), Italian naturalist and botanist, founded the Accademia dei Lincei (1603, forerunner of the Pontifical Academy of Sciences), studied the reproductive role of fern spores.

Dominicus **Chabraeus** (1610-1669), Swiss physician and botanist, author of *Stirpium sciagraphia et icones ex musaeo Dominici Chabraei* (1666).

Jean Henri **Cherler** (1570-1610), Swiss physician and botanist, professor at the Academy in Nîmes, helped Johann Bauhin in the compilation of *Historia Plantarum Universalis...* (1650-1651) and appears as coauthor of the work.

Pierre Jean Baptiste **Chomel** (1671-1740), French physician, botanist and plant collector, author of *Abrégé de l'histoire des plantes usuelles, dans lequel on donne leurs noms différens françois et latins...* (1712).

Bernardo de **Cienfuegos** (1580-1640), Spanish physician and botanist, author of an unpublished seven-volume *Historia de las plantas*.

Peder **Clausøn** Friis (1545-1614), Danish-Norwegian historian, naturalist and botanist, translator of valuable Old Norse writings.

John **Clayton** (c.1695-1773), English-American jurist, botanist and plant collector in Virginia, his plants were described by Gronovius in *Flora Virginica* (1739), correspondent of Linnaeus.

Andreas **Cleyer** (1634-c.1698), German pharmacist and botanist in Asia, had a botanical garden, author of the first book about Chinese medicine (*Specimen medicinae Sinicae...* 1682).

Augerius **Clutius** (1577-1636), Dutch physician, entomologist, botanist and plant collector in Europe and northern Africa.

Cadwallader **Colden** (1688-1776), Irish-Scottish-American politician, surveyor, physician and botanist, correspondent of Linnaeus.

Philibert **Collet** (1643-1718), French lawyer and botanist, author of *Catalogue des plantes que l'on trouve autour de la ville de Dijon* (1702).

Peter **Collinson** (1694-1768), English merchant, horticulturist and botanist, imported many plants from North America, correspondent of Linnaeus.

Fabio **Columnius** (1567-1640), Italian naturalist and botanist in Naples, rejected the use of leaves for classification in favor of flowers and fruits, author of *Phytobasanos* (1592, included the first copper-plate illustrations).

Orazio **Cornacchini** (?-1608), Italian botanist and plant collector, professor at Padua and Pisa.

Jacques Philippe **Cornut** (1606-1651), French physician and botanist, professor at the Faculty of Medicine in Paris, author of *Canadensium plantarum...* (1635).

Giacomo Antonio **Cortuso** (1513-1603), Italian botanist and traveler, prefect of the Padua Botanical Garden, author of *L'orto dei semplici di Padova* (1592).

Cristóvão da **Costa** (c.1525-c.1594), Portuguese physician and botanist, traveled to the East Indies, author of *Tractado de las drogas y medicinas de la Indias Orientales* (1578).

William **Courten** (1642-1702), English botanist, friend of Hans Sloane.

Francesco **Cupani** (1657-1710), Italian naturalist and botanist, author of *Hortus Catholicus* (1696).

Jacques **Dalechampius** (1513-1588), French philologist, physician and botanist, author of *Historia generalis plantarum* (1586), translated works by Galen, Pliny and other classical authors.

Louis François Angier **Dangerville** (1706-1779), French botanist, had a garden in Rouen, correspondent of Linnaeus.

Antoine Tristan **Danty** d'Isnard (1663-1743), French physician, botanist and plant collector, briefly succeeded Tournefort at the Jardin du Roi.

George Charles **Deering** (c.1695-1749), German-English physician and botanist, author of *Catalogus stirpium, etc., or, A Catalogue of plants naturally growing and commonly cultivated in divers parts of England...* (1738).

François **Descurain** (1658-1740), French pharmacist, physician and botanist.

Jean Baptiste René Poupé **Desportes** (1704-1778), French physician and botanist in Saint Domingue, provided new plants to botanists, author of the three-volume *Histoire des maladies de St. Domingue* (1770).

Bern(h)ard **Dessenius** (1510-1574), Dutch physician and botanist, professor at Groningen, author of several medical publications.

Marin **Dierville** (1653-1738), French physician, botanist and plant collector in Acadia (current Nova Scotia), author of *Relation du voyage du Port Royal de l'Acadie, ou de la Nouvelle France...* (1708).

Samuel **Doody** (1656-1706), English pharmacist, botanist and plant collector, keeper of the Chelsea Physic Garden.

Theodor **Dorsten** (c.1500-1552), German physician and botanist, professor at Marburg, author of *Botanicon, continens herbarum, aliorumque simplicum...* (1540).

François **Dugort**, French botanist, author of *Le Bénéfice commun* (1555).

Castore **Durante** (1529-1590), Italian poet, physician and botanist, author of the very popular *Herbario Nuovo* (1585) and *Il Tesoro della Sanità* (1586).

Johann Georg **Duvernoy** (1692-1759), Alsatian-German physician and botanist, professor at Tübingen, author of *Designatio plantarum circa Tubingensem arcem florentium* (1722), pupil of Tournefort.

Johann Sigismund **Elsholtz** (1623-1688), German physician and botanist, developed the first botanical garden in Berlin, author of *Hortus Berolinensis* (1657) and *Flora marchica...* (1663).

Christian Heinrich **Erndl** (1676-1734), German meteorologist, physician and botanist, author of *De flora Japonica, codice bibliothecae regiae Berolinensis...* (1716).

Johann Philipp **Eysel** (1652-1717), German physician, botanist and writer, professor at Erfurt, presided over a dissertation titled *Bellidographia, sive Bellidis descriptio* (1714).

Johann (Giovanni) **Faber** (1574-1629), German physician, botanist and art collector, curator at the Vatican's botanical garden.

Guy Crescent **Fagon** (1638-1718), French chemist, physician and botanist, professor at the Jardin du Roi and director of the garden, promoter of botanical exploration.

Virgilio **Fallugi** (c.1627-1707), Italian clergyman and botanist, abbot of the Vallombrosa monastery, author of *Prosopopoeiae botanicae Tournefortiana methodo dispositae* (1705).

Filippo Vincenzo **Farsetti** (1703-1774), Italian (Venetian) art collector, horticulturist and botanist, had a large botanical garden.

Giovanni Battista **Ferrari** (1584-1655), Italian horticulturist and botanist, professor at the Jesuit College in Rome, author of *De florum cultura libri IV* (1633) and *Hesperides sive de malorum aureorum cultura...* (1646).

Louis **Feuillée** (1660-1732), French astronomer, geographer, botanist and plant collector in the Caribbean and South America, pupil of Plumier.

Johannes **Frankenius** (1590-1661), Swedish physician and botanist, professor at Uppsala, author of *Speculum botanicum Renovatum Praecipuarum...* (1659).

Remacle (Remaclus) **Fuchs** (c.1510-1586), Belgian physician and botanist, author of works on botany, pharmacy, medicine and history of medicine.

Jørgen **Fuiren** (1581-1628), Danish physician, botanist and plant collector in Scandinavia.

Alexander Christian **Gakenholz** (?-1717), German anatomist and botanist, curator of the Helmstedt Botanical Garden.

Laurent **Garcin** (1683-1752), Swiss surgeon, botanist and plant collector in the Middle East, India and Indonesia

Pierre Joseph **Garidel** (1658-1737), French physician and botanist, professor at Aix-en-Provence, author of *Histoire des plantes qui naissent aux environs d'Aix-en-Provence et dans plusieurs autres endroits de la Provence* (1715).

Claude Joseph **Geoffroy** (1685-1752), French chemist, pharmacist and botanist, author of *Observations sur la structure et l'usage des principales parties des fleurs* (1711).

John **Gerard** (1545-1612), English surgeon, gardener and botanist, had a large garden in London, author of *The herball, or, Generall historie of plantes...* (1597).

Arnold **Gillen** (1586-1633), German physician and botanist, had a garden at Cassel, author of *Hortus* (1627).

John **Goodyer** (1592-1664), English botanist and plant collector, had a botanical garden, translated into English the works of Dioscorides and Theophrastus, mentioned in Gerard's *Herbal*.

Nicholas Tourtechot-**Granger** (c.1680-1734), French physician, gardener, botanist and traveler in the Middle East.

James **Greenway** (c.1703-1794), American physician, botanist and plant collector in Virginia.

Gabriel **Grisley** (fl. 1660), German chemist and botanist working in Lisbon, author of *Viridarum Lusitanum* (1661).

Melchior **Guilandinus** (c.1520-1589), German physician, botanist and plant collector in North Africa (where he was captured and enslaved several years), professor at Padua and director of the botanical garden.

Andreas von **Gundelsheimer** (1668-1715), German physician and botanist, founder of the anatomical theater in Berlin, traveled with Tournefort and Aubret to the Levant.

Johann Ernst **Hebenstreit** (1703-1757), German physician, botanist and nature collector in North Africa, professor at Leipzig.

Lorenz **Heister** (1683-1758), German surgeon, anatomist and botanist, professor at Altdorf and Helmstedt.

Georg Andreas **Helwing** (1666-1748), German botanist, studied the flora of East Prussia, author of *Lithographia Angerburgica...* (1717).

Paul **Hermann** (1646-1695), German-Dutch physician, botanist and plant collector in India and Ceylon, professor at Leiden and director of the botanical garden, author of *Horti academici Lugduno-Batavi catalogus...* (1687).

Johann Heinrich von **Heucher** (1677-1747), Austrian-German physician and botanist, professor at Wittenberg and founder of the botanical garden, patron of natural history.

Johannes (Jean) **Hofer** (1697-1781), Swiss botanist.

Pieter **Hotton** (1648-1709), Dutch physician and botanist, professor at Leiden and supervisor of the botanical garden, later director of the Amsterdam Botanical Garden, author of *Thesaurus Phytologicus* (1738).

William **Houston** (1695-1733), Scottish surgeon, botanist and plant collector in Mexico, Venezuela and the West Indies.

Antoine Tristan Danty d'**Isnard** (1663-1743), French physician, botanist and plant collector, successor of Tournefort at the Jardin du Roi.

Herbert de **Jager** (1634-1694), Dutch merchant, orientalist, botanist and plant collector in the East Indies, author of *De Sementina* (1684).

Thomas **Johnson** (c.1600-1644), English pharmacist, physician, botanist and plant collector, had a physic garden at Snow Hill, London.

Martin Daniel **Johren** (?-1718), German physician and botanist, professor at Frankfurt, author of *Vade-mecum botanicum seu hodegus botanicus...* (1717).

Denis **Joncquet** (1600-1671), French physician and botanist at the Jardin du Roi, published in 1658 a work on the garden's plants.

Ludwig **Jungermann** (1572-1653), German physician and botanist, professor at Giessen and Altdorf (established herbal gardens at both universities), wrote part of the text for *Hortus Eystettensis* (1613).

Antoine de **Jussieu** (1686-1758), French naturalist and botanist, succeeded Tournefort at the Jardin du Roi.

Joseph de **Jussieu** (1704-1779), French botanist, participant in the Spanish-French Geodesic Mission to South America.

Franz **Kiggelaer** (1648-1722), Dutch gardener, pharmacist, botanist and plant collector, keeper of Simon van Beaumont's garden in Leiden, author of *Horti Beaumontiani exoticarum plantarum catalogus...* (1690).

Christopher **Knaut** (1638-1694), German physician and botanist, author of *Enumeratio Plantarum Circa Halam Saxonum Et In Eius Vicinia...* (1687).

Christian **Knaut** (1656-1716), German physician and botanist, author of *Compendium botanicum sive methodus plantarum genuina...* (1718).

Johann Hyeronimus **Kniphof** (1704-1763), German physician and botanist, professor at Erfurt, author of *Botanica in originali, seu herbarium vivum* (1733).

Georg Wolfgang **Knorr** (1705-1761), German engraver and botanist, author of *Thesaurus rei herbariae hortensisque universalis...* (1750).

Thomas **Knowlton** (1691-1781), English gardener, garden designer, horticulturist and botanist, director of James Sherard's botanical garden (Horti Elthamensis).

David **Krieg** (1667-1713), German physician, botanist and plant collector in Maryland.

Peder Lauridsen **Kylling** (c.1640-1696), Danish botanist, author of *Viridarium Danicum...* (1688).

Jean Baptiste **Labat** (1663-1738), French ethnographer, and botanist, sugar plantation owner in Martinique, author of *Nouveau voyage aux isles Françoises de l'Amérique* (1722).

Andrés **Laguna** de Segovia) (1499-1559), Spanish physician and botanist, founder of the Aranjuez Botanical Garden, translated into Castilian Dioscorides' *Materia Medica* (1554).

Marco Antonio **Laurenti** (1678-1772), Italian physician and botanist, professor at Bologna.

Johann Jakob **Lerche** (1703-1780), German-Russian physician, botanist and plant collector in Russia.

Joseph **Lieutaud** (1703-1780), French physician and botanist, author of the four-volume *Précis de médecine pratique* (1760-1776).

Johann **Linder** (1678-1724), Swedish physician and botanist, author of *Flora Wiksbergensis* (1716).

Franz Balthasar von **Lindern** (1682-1755), German physician and botanist, professor at Strasbourg and director of the botanical garden, author of *Hortus Alsaticus* (1747).

Geoffroy **Linocier** (c.1550-c.1620), French translator, physician and botanist, author of *Histoire de plantes* (1584) which is based on works by Fuchs and Mattioli.

Augustin **Lippi** (1678-1705), French physician, botanist and plant collector.

Michael Friedrich **Lochner** von Hummelstein (1662-1720), German polymath, traveler, physician and botanist, author of *Commentatio de ananasa* (1716).

Johannes **Loesel** (1607-1655), German physician and botanist, professor at Königsberg, author of *Flora prussica* (1703).

Adam **Lonicerus** (1528-1586), German mathematician, physician and botanist, professor at Marburg, author of the

two-tome *Naturalis historiae opus novum...* (1551-1555) and *Kräuterbuch* (1557).

Michael Matthias **Ludolf** (1705-1756), German physician and botanist, professor at the Collegio medico-chirurgico in Berlin.

Francesco **Malocchi** (?-1614), Italian botanist, prefect of the Pisa Botanical Garden.

Agostino **Mandirola** (?-1661), Italian horticulturist and botanist, author of *Manuele di giardinieri...* (1652).

Marcus **Mappus** the Elder (1632-1701), French botanist, author of a catalog of the plants in the Strasbourg Botanical Garden.

Marcus **Mappus** the Younger (1666-1736), physician and botanist, author of *Historia plantarum Alsaticarum* (1742).

Bartolomeo **Maranta** (1500-1571), Italian physician and botanist, worked at the Naples Botanical Garden, author of the two-volume *Della theriaca et del mithridato* (1572).

Nicolas **Marchant** (?-1678), French pharmacist, physician and botanist, director of the Duke of Orleans' gardens at Bois and later of the Jardin du Roi in Paris.

John **Martyn** (1699-1768), English physician and botanist, professor at Cambridge, author of *Historia plantarum rariorum...* (1728).

Pietro Andrea **Mattioli** (1501-1577), Italian physician and botanist, author of *Compendium de plantis omnibus* (1571), translator of Dioscorides.

George **Meister** (1653-1713), German gardener, botanist and plant collector in Asia, author of *Der orientalisches-indianische Kunst- und Lust-Gärtner* (1692).

Christian **Mentzel** (1622-1701), German Sinologist, physician and botanist.

Francisco **Micó** (1528-c.1592), Spanish pharmacist, physician, botanist and plant collector.

Thomas **Millington** (1628-1704), English physician and botanist, professor at Oxford.

Juan **Minuart** (1693-1768), Spanish (Catalan) pharmacist, botanist and plant collector, professor at the Royal Madrid Botanical Garden, helped Peter Loeffling during his stay in Madrid.

Johannes **Molinaeus** (1530-1622), French physician and botanist, published in 1615 a French translation of *Dalechamp's Historia Plantarum*.

Nicolas **Monardes** (1493-1588), Spanish physician and botanist, author of *Historia medicinal de las cosas que se traen de nuestras Indias Occidentales* (1565).

Jean de **Monelle**, Italian botanist, sent plants to Carolus Clusius.

Ovidio **Montalbani** (1601-1671), Italian physician and botanist, professor at Bologna, author of *Bibliotheca botanica...* (1657).

Giuseppe **Monti** (1682-1760), Italian chemist and botanist, professor at Bologna and director of the botanical garden.

Robert **More** (1703-1780), English politician and botanist, friend of Linnaeus.

Louis Pierre **Morin** (1635-1715), French physician and botanist, worked with Tournefort at the Jardin du Roi.

Samuel **Morland** (?-1722), English botanist, one of the first scientists to realize the significance of pollen as a male "seed".

Abraham **Munting** (1626-1683), Dutch physician and botanist, professor at Groningen and director of the botanical garden.

Johannes von **Muralt** (1645-1733), Swiss physician and botanist, professor at Zurich.

Daniel Wilhelm **Nebel** (1664-1733), German botanist, professor at Heidelberg and Marburg.

Guillaume **Nissole** (1647-1735), French physician, naturalist and botanist in Montpellier, member of the Montpellier Academy.

Petrus **Nylandt** (c.1635-c.1710), German-Dutch pharmacist, physician and botanist, author of *Herbarius Belgicus...* (1670) and *De Nederlandtse herbarius of Kruydt-Boeck...* (1682).

Nicholas **Oelhaf** (1604-1643), German physician and botanist, author of *Elenchus plantarum circa nobile Borussorum Dantiscum...* (1643).

Henrik Bernard **Oldenland** (1663-1697), German physician, botanist, illustrator and plant collector in South Africa, director of the Dutch East Indies' botanical garden in Cape Town.

Bernardus **Paludanus** (1550-1633), Dutch physician, botanist and traveler in the Middle East, had a large and popular cabinet of curiosities.

Paracelsus (Philippus Theophrastus Bombastus von Hohenheim) (1493-1541), Swiss-German philosopher, physician and botanist, pioneered direct observation instead of reliance on classical texts.

Simon **Paulli** (1603-1680), Danish physician and botanist, professor at Rostock and Copenhagen, author of *Flora Danica...* (1648).

Petrus **Pavius** (1564-1617), Dutch physician and botanist, professor at Leiden, helped with the management of the botanical garden.

Pierre **Pena** (1535-1605), French physician and botanist, coauthor with Mathias L'Obel of *Stirpium adversaria nova...* (1571).

François Pourfour du **Petit** (1664-1741), French physician, anatomist and botanist.

James **Petiver** (c.1660–1718), English entomologist, pharmacist, botanist and nature collector.

Giovanni Vincenzo **Pinelli** (1535-1601), Italian scholar and botanist, had a very large library and a botanical garden in Naples.

Juan **Plaza** (c.1525-1603), Spanish physician and botanist, professor at Valencia, correspondent of Carolus Clusius.

Jaime Honorato **Pomar** (1550-1606), Spanish physician and botanist, physician of King Felipe III, professor at Valencia.

Pierre **Pomet** (1658-1699), French pharmacist, botanist and traveler, author of *Histoire générale des drogues...* (1694).

Giovanni **Pona** (1565-1630), Italian physician and botanist.

Giulio **Pontedera** (1688-1757), Italian physician, botanist and plant collector, professor at Padua and prefect of the botanical garden, author of *Compendium tabularum botanicarum...* (1718) and *Anthologia sive de floris natura* (1720).

Johann Siegmund **Popowitsch** (1705-1774), Austrian linguist, naturalist and botanist, had a large herbarium, professor at Vienna.

François **Poupart** (x -1708), French physician and botanist.

José **Quer y Martínez** (1695-1764), Spanish military surgeon, botanist and plant collector, first botany professor of the recently founded Royal Madrid Botanical Garden,

author of the first four volumes of *Flora española ó Historia de las plantas que se crían en España*.

Isaac **Rand** (1674-1743), English gardener, pharmacist and botanist, prefect of the Chelsea Physic Garden, author of *Horti medici Chelseiani index compendarius* (1739), acquaintance of Linnaeus.

Leonhart **Rauwolfius** (1535-1596), German physician, botanist and plant collector in Europe, the Middle East and Mesopotamia.

Paul **Reneaulme** (1560-1624), French physician, botanist and plant collector, author of *Specimen historiae plantarum* (1611).

Hendrik van **Rheede** (1636-1691), Dutch colonial administrator and botanist, governor of Dutch Malabar, proposer and director of the 12-volume *Hortus Malabaricus* (1678-1693).

Wilhelmus ten **Rhyne** (1647-1700), Dutch physician, botanist and plant collector in Indonesia, contributed to Rheede's *Hortus Malabaricus*, provided an early description of Japanese medical practices.

Richard **Richardson** (1663-1741), English antiquary, physician and botanist, had a large garden at North Bierley, Yorkshire.

Jean **Robin** (1550-1629), French gardener, pharmacist and botanist, established a botanical garden in Paris and listed its

plants in *Catalogus stirpium tam indigenarum quam exoticarum quae Lutetiae coluntur* (1601).

Tancred **Robinson** (c.1657-1748), English physician, naturalist and botanist.

Willem **Röell** (1700-1775), Dutch physician and botanist, professor at Amsterdam, plantation owner in Dutch Guiana, acquaintance of Linnaeus.

Werner **Rolfink** (1599-1673), German physician, anatomist and botanist, professor at Jena, founder of the botanical garden and the anatomical theater.

Guillaume **Rondelet** (1507-1566), French physician, zoologist and botanist, professor at Montpellier.

Adriaan van **Royen** (1704-1779), Dutch physician and botanist, professor at Leiden and director of the botanical garden, author of *Florae leydensis prodromus...* (1740), friend of Linnaeus.

Heinrich Bernhard **Ruppius** (1688-1719), German physician and botanist, author of *Flora Jenensis...* (1718).

Frederik **Ruysch** (1638-1731), Dutch physician and botanist, professor at Amsterdam and director of the botanical garden.

Martín **Sarmiento** (1695-1772), Spanish scholar, naturalist and botanist.

François Boissier de **Sauvages** de Lacroix (1706-1767), French physician, naturalist and botanist, professor at

Montpellier, author of *Methodus foliorum, seu plantae florum Monspeliensis...* (1751), correspondent of Linnaeus.

Francesco Eulalio **Savastano** (1657-1717), Italian botanist, author of *Botanicorum seu Institutionum rei herbariae libri IV* (1712).

Gunther Christoph **Schelhammer** (1649-1716), German physician and botanist, professor at Helmstedt, Jena and Kiel.

Georg Christian **Schwalbe** (1691-1761), Dutch physician and botanist, defended the dissertation *De China Officinarum* (1715).

Jean François **Séguier** (1703-1784), French archeologist, historian and botanist, author of *Bibliotheca botanica...* (1740) and the three-volume *Plantae Veronenses* (1745-1754).

Josephus **Serrurier** (1663-1742), Dutch mathematician, physicist, physician and botanist, professor at Utrecht.

Christophorus Conradus **Sicelius** (1697-1748), German physician and botanist, wrote in 1724 about belladonna.

Johann Georg **Siegesbeck** (1688-1755), German physician and botanist, professor at St. Petersburg and director of the botanical garden, author of the two-volume *Primitiae florum petropolitanarum* (1736-1739), strongest of Linnaeus' critics.

Mary **Somerset**, 1st Duchess of Beaufort (1630-1715), English gardener and botanist, had large gardens at

Badminton (Gloucestershire) and Chelsea, as well as a large collection of flower drawings.

Otto **Sperling** (1602-1681), Danish-Norwegian physician and botanist, inspector of the Royal Gardens in Copenhagen, author of *Hortus Christianaeus seu Catalogus plantarum quibus serenissimi Principis Christiani IV* (1642).

Adriaan van den **Spigel**) (1578-1625), Belgian physician, anatomist and botanist, provided in 1624 the first detailed description of malaria.

Benedict **Staezelin** (1695-1750), Swiss physician and botanist, professor at Basel.

Johannes Franciscus van **Sterbeeck** (1630-1693), Flemish-German pharmacist and botanist, author of *Theatrum fungorum...* (1675) and *Citricultura...* (1682).

Pedro Jaime Esteve (**Stevius**) (c.1500-1556), Spanish physician and botanist, professor at Valencia.

Benjamin **Stillingfleet** (1702-1771), English translator and botanist, author of *Miscellaneous tracts relating to natural history, husbandry and physick...* (1759).

Giuseppe **Suares** de la Concha (1683-1754), Italian (Florentine) botanist, cofounder of the Accademia Botanica Fiorentina.

François Joseph Donat de **Surian** (1650-1691), French chemist, physician, botanist and plant collector, traveled with Plumier to the West Indies.

James **Sutherland** (1639-1719), Scottish botanist, professor at Edinburgh and intendant of the physic garden (later Royal Botanical Gardens), author of *Hortus medicus Edinburgensis...* (1683).

Arnoldus **Syen** (1640-1678), Dutch physician, botanist and traveler, professor at Leiden and director of the botanical garden, contributed to the first part of *Hortus Indicus Malabaricus* (1678).

Jacobus Theodorus **Tabernaemontanus** (1522-1590), German pharmacist, physician and botanist, author of *Neuwe Kreuterbuch* (1588).

Christoffer **Tärnström** (1703-1746), Swedish botanist, sailed to China but died on an island off southern Vietnam, first of Linnaeus' apostles

Hermann Friedrich **Teichmeyer** (1685-1746), German physician and botanist, professor at Jena, author of *Institutiones medicinae legalis vel forensis...* (1740).

Lorenzo **Terraneo** (1676-1714), Italian physician, botanist and plant collector.

Jean Baptiste Du **Tertre** (1610-1687), French missionary and botanist in the French Antilles, author of the four-

volume *Histoire générale des Antilles habitées par les François* (1667-1671).

Johannes **Thal** (1542-1583), German physician and botanist, director of the apothecaries' garden in Nordhausen, author *Sylva Hercynia...* (1588).

Jean de **Thévenot** (1633-1667), French naturalist, botanist and plant collector, visited the Middle East, Persia and the Orient.

Caleb **Threlkeld** (1676-1728), Irish physician and botanist, author of the first Irish flora: *Synopsis stirpium Hibernicarum...* (1727).

Michelangelo **Tilli** (1655-1740), Italian physician, botanist and plant collector, professor at Pisa and director of the botanical garden, author of *Catalogus plantarum Horti Pisani* (1723).

Elias **Tillandz** (1640-1693), Swedish physician and botanist, professor at Åbo (Turku) and founder of the botanical garden, author of *Catalogus Plantarum* (1673).

Antonius **Tita** (?-1729), Italian botanist and plant collector, director of Giovanni Francesco Morosini's garden in Padua (described in *Catalogus plantarum*, 1713).

Simón **Tovar** (?-1596), Spanish physician and botanist, corresponded with and sent plants to Carolus Clusius, who wrote *Index horti Tovarici*.

Bruno **Tozzi** (1656-1743), Italian botanist, teacher and friend of Micheli.

John **Tradescant** the Elder (c.1570-1638), Englosh gardener, botanist and plant collector in Europe.

John **Tradescant** the Younger (1608-1662), English gardener, botanist and plant collector in North America.

Giovanni Battista **Triumfetti** (1656-1708), Italian physician and botanist, professor at Rome and director of the botanical garden, author of *Observationes de ortu ac vegetatione plantarum...* (1685).

Giorgio della **Turra** (1607-1688), Italian botanist, professor at Padua, author of *Catalogus plantarum horti patavini novo incremento locupletior* (1660).

Leonhard **Ursinus** (1618-1664), German physician and botanist, professor at Leipzig, author of *Viridarium Lipsiense*.

Johannes Cornelius **Uterverius** (?-1619), Dutch-Italian botanist, professor at Bologna and director of the botanical garden.

Douvez **Valerand**, 16th century botanist.

Antonio **Vallisneri** (1661-1730), Italian physician, naturalist and botanist, professor at Padua, emphasized observation and experimentation over established dogma.

Antoine **Vallot** (1594-1671), French physician and botanist, director of the Jardin du Roi, author of a catalog of the garden.

Abraham **Vater** (1684-1751), German physician, anatomist and botanist, professor at Wittenberg, author of *Catalogus plantarum inprimis exoticarum horti academici Wittenbergensis* (1722).

William **Vernon** (c.1666-c.1713), English botanist and plant collector in Maryland.

Johann **Veslingius** (1598-1649), German-Italian physician, anatomist and botanist, professor at Padua and director of the botanical garden.

Domenico **Vigna** (?-1647), Italian physician, horticulturist and botanist, professor at Pisa and prefect of the botanical garden, author of *Animadversiones, sive observationes in libros de Historia et de causis plantarum Theophrasti...* (1625).

Johann Christoph **Volkamer** (1644-1720), German botanist, author of the two-volume *Nurembergische Hesperides...* (1708-1814).

Johann Georg **Volkamer** the Younger (1662-1744), German physician and botanist, author of *Flora Norimbergensis* (1700).

Adolphus **Vorstius** (1597-1663), Dutch physician and botanist, professor at Leiden and director of the botanical garden.

Evert Jacob von **Wachendorff** (Everhardus Jacobus van Wachendorf) (1703-1758), Dutch physician, chemist and botanist, professor at Utrecht and director of the botanical garden, author of *Horti Ultraiectini Index* (1747), correspondent of Linnaeus.

Augustin Friedrich **Walther** (1688-1746), German physician and botanist, professor at Leipzig and director of the botanical garden, had a private botanical garden described in *Designatio plantarum quas Hortus August. Friderici Waltheri...* (1735).

John **Wilson** (1696-1751), English shoemaker, baker and botanist, author of *A synopsis of British Plants, in Mr. Ray's method...* (1744).

Adam Zaluziansky von **Zaluzian** (1558-1613), Czech physician and botanist, lecturer at Charles University (Prague), author of *Methodi herbariae libri tres* (1592), argued for the separation of botany from medicine.

Giacomo **Zanoni** (1615-1682), Italian pharmacist and botanist, director of the Bologna Botanical Garden, author of *Rariorum stirpium historia ex parte olim edita...* (1742).